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THESE RELICS OF BARBARISM: A HISTORY OF FURNITURE IN BARRACKS AND GUARDHOUSES OF THE UNITED STATES ARMY, 1800-1880

U.S. DEPARTMENT OF THE INTERIOR/NATIONAL PARK SERVICE/HARPERS FERRY CENTER

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THESE RELICS OF BARBARISM:
A HISTORY OF FURNITURE IN BARRACKS AND GUARDHOUSES OF THE UNITED STATES ARMY, 1800-1880

Prepared for

Harpers Ferry Center
Harpers Ferry, West Virginia

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INTRODUCTION

This report offers a history of the furniture used by enlisted men in barracks and guardhouses of the United States Army before 1880. It approaches the subject along three avenues--administrative history, the history of regulations, and the observations of people who were there--and then reconciles the three bodies of information in a summary chapter. More than half of the report is appendixes, which are intended to be, as completely as possible, a convenient source book on the subject. The reader is warned in advance that many of the footnotes are substantive; I apologize to those who believe (as do I) that expansions of the text ought to appear at the bottoms of pages, but the economic facts of life forbid that.

There is much in this report that may surprise some readers, especially those of an antiquarian bent. We today are accustomed to an Army that is highly bureaucratized, with a rule or regulation governing every aspect of the soldier's life. Rigid specifications, centralized procurement, and general issues now make every barrack room more or less identical to every other.

But that was not always the case. During the 19th century the Army only haltingly moved from an age of handicrafts without policy to one of policy without handicrafts. As a result, the only thing uniform about the Army was its uniform. Except for clothing and hardware procured and distributed from central sources, most of the Army's material inventory was assembled locally and without guidance from above. It was not until the 1870s that the Army's managers began seriously to address the refinement of specifications and the imposition of uniform standards servicewide. Accordingly, no two army posts--or barrack rooms or even bunks--were the same for the first full century of the Army's existence.

No one, if a project like this is to come to a successful conclusion, can work without the help of others. That is the case here, as the full list of people (Bibliography) who in offered support during the course of this work attests. I wish to offer special thanks to some whose services were far beyond the ordinary, including John Demer of the National Park Service, Harpers Ferry Center, who managed the contract and did everything in his power to help the work go on apace. His colleague, William L. Brown III, offered helpful information at the start of the work and excellent, detailed comments on the draft report. The number of archivists and librarians who helped to make the research possible is too great to list here, but special citations were earned by Michael P. Musick and Robert Matchette of the Military Archives Division of the National Archives; Alice Wickizer and her staff of the Government Publications and Documents Department of the Indiana University Library; Richard C. Davis and Mary Elizabeth Johns of the Forest History Society; and John Slonaker and Dennis Vetock of the United States Army Military History Institute, who made me feel a very honored guest, almost waiting on me hand and foot. Don Loprieno of New Windsor Cantonment provided some critical information about that place otherwise unavailable to me, and Ronald B. Hartzer of my staff, who is now working on a history of a district of the Corps of Engineers, answered some questions about Corps procedures in the 19th century. Presents came in the mail, in response to an appeal, from Wil Ebel, Raymond Scott, Herbert M. Hart, and Arthur A. Hart. Joseph R. Blaise deserves special notice for granting an interview and explaining many of the facts of army life before World War II. And not least, I wish to thank my son, Jesse B. Clary, for outstanding technical assistance in the mechanics of assembling the appendixes. Responsibility for any errors, however, rests with me alone.

Finally, as an author obsessed with a subject, I owe a great debt to my wife for her patience and willingness to be a sounding board. She has, fortunately, never in her life seen a bedbug, but she has heard of little else for several months. Although she has not said so, surely she must share the sentiments expressed in the title of chapter 19.

David A. Clary
Bloomington, Indiana

PART I

FOUNDATIONS
(1775-1800)

"Some of what are called military posts,
are mere collections of huts made of logs,
adobes, or mere holes in the ground, and
are about as much *forts* as prairie dog
villages might be called *forts*."

--William T. Sherman, 1874

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1

ANY SUCH STRESS AND STRAIN

> Keep in sight the interesting historical truth that no language, so far back as our acquaintance with history goes, has known any such ordeal, any such stress and strain, as was to await the English in this huge new community it was so unsuspectingly to help, at first, to father and mother. It came over, as the phrase is, came over originally without fear and without guile--but to find itself transplanted to spaces it had never dreamed, in its comparative innocence, of meeting; to find itself grafted, in short, on a social and political order that was without precedent and example and incalculably expansive.[1]

So said Henry James about the English language in America during the 19th century, and so should we remember as we ponder the words of our own past. The student of history, especially that of material culture, must ever bear in mind that language is a constantly changing thing. Of no other tongue is that more true than of what H. L. Mencken called "the American Language" in the first century after the Declaration of Independence, especially during its "period of growth"[2] after 1812, as America, its language, and even such small details of its social life as the beds of its soldiers, departed ever farther from their English origins. The meanings and usages of words changed then more even than they change now, and many words had several meanings or connotations at a given moment.

This report is about "furnishings" and "furniture" in barracks and guardhouses of the United States Army before 1880. Hoving too closely to the literal meaning of "furnishings" would leave little to discuss in that context. For of all the words and phrases that must concern us here, the term "furnishings" has evolved the least in American usage. As applied to objects, in the 19th century it meant chiefly "unimportant appendages; mere externals."[3] That meaning extended from the action of the verb "to furnish" (provide or supply incidentally, or pay), and for most of the 19th century the Army "furnished" very little to its men that most people today would call "furniture" (although, in its bureaucratic way, the Army regarded appurtenances that the soldiers made for themselves to be items "furnished" to them). The Army "furnished" weapons, uniforms, blankets, food, pay, medical care, and supervision--most of which, like the tools with which the soldier erected his bed, were officially on loan from the Army anyway.

It was only very late in the 19th century that the word "furnishings" acquired an additional sense of "articles of furniture, apparatus, etc."[4] For most of the century the actual meaning of the term was usually apparent only in context, and the usual connotation was of an accessory or appurtenance incidental to something more important. "Bed furnishings," for instance, were mattresses and bedding for a bedstead. ("Bed" itself referred to the bedding, and not to the bedstead.)

The word "furniture" has evolved much more in America than has "furnishings." Originally, in the 17th century on both sides of the Atlantic, the word meant "the equipment or accouterments belonging with a gun, as powder, shot, match, etc.," and secondarily "defensive covering for the body; armor." But both definitions were probably obsolete in America by the early 18th century. "Furniture" meaning household equipment also goes back in American usage to the 17th century, but until well into the 19th century its chief application was to the furnishings of a bedstead--mattresses, sheets, and other bedding. The first written American use of the word that seems to connote chairs and the like was in Benjamin Franklin's 1771 autobiography, but multiple connotations persisted for more than a century. By far the commonest was of an accessory or furnishing--table furniture meant eating implements; kitchen or stove furniture included lids, pots, skillets, stovepipe, and so on; hospital furniture usually meant dressings and incidentals. "Bed furniture" in the sense of bedding (as opposed to the bedstead) also persisted throughout the period.[5]

The point of this discussion is that the meanings of what may seem to be even the most obvious terms should never be assumed when they are in a historical context. Nor will current dictionaries offer much help. But historical dictionaries of English, American English, and Americanisms offer a great deal of help when it is necessary to translate a term in an old source into a picture of the object it refers to. The murky etymology of the word "bunk," for instance, may provide some understanding of what the earliest army bunks, of which we have little description, really were like. Even the infamous "bedbug," so much a part of army life in the past, has a lexicographic history different in America from that in England. Other terms whose histories can shed light on the objects they name include "puncheon," "palliasse," "bedsack" (an American original), and others. The discovery of when the term "palliasse," for instance, came into the language affords the first clue to when the object itself came into use--with the interesting fact that at first it was chiefly a military artifact.

As if the potential misinterpretations lurking in a changing language were not enough, bureaucratic procedures affect the definition of the subject of this report. Although "furnishings" and "furniture" had many connotations, when meant as the contents of buildings, the only "furniture" the Army acknowledged in the 19th century was desks, chairs, andirons, and tongs for offices. Even they were not, properly speaking, regarded as furniture, but as fixtures of buildings. So, too, with bunks or bedsteads, except those in hospitals, which in the 1850s became "medical supplies." That was natural enough during the long period when bunks were wooden structures built along with (often into, if built at all) barracks, but the classification continued after the introduction into barracks of the first manufactured bedsteads in the 1850s, and until the wholesale replacement of the wooden bunks in the 1870s--but calling iron bedsteads "bunks" gave that old word a new definition. After the early 1870s, the iron bunks became part of the "camp and garrison equipage" of the Army.

The Army's classifications of its possessions reflected its sytems of fiscal appropriations, procurement, manufacture, distribution, and accounting or bookkeeping. The subject of this report was scattered throughout those systems and occasionally rearranged. To clarify discussion, the "furniture" addressed in the text that follows includes items of clothing (blankets, bedsacks, pillow sacks, mosquito netting, bedding generally); fuel and straw (straw for bedding); camp and garrison equipage (cooking implements, and bedsteads in the last years); subsistence rations (candles); barracks and quarters (bunks, bedsteads for most of the period, interior finish, fire extinguishers, stoves and ranges, etc.); and so on.

In short, this report attempts to trace the material history of the condition and contents of barracks and guardhouses, as appurtenant to the buildings. It does not address incidental contents, such as the weapons and uniforms of the soldiers.

Notes

1. Henry James, "The Question of Our Speech" (1905), quoted in H. L. Mencken, *The American Language: An Inquiry into the Development of English in the United States*, with *Supplement I* and *Supplement II* (reprint ed., 3 vols., New York: Alfred A. Knopf, 1978), 1:138. Mencken's work is the outstanding treatise on the subject, and is essential to anyone who encounters or must use American English.

2. Ibid., title of part IV. 104-63.

3. *The Compact Edition of the Oxford English Dictionary: Complete Text Reproduced Micrographically* (2 vols., New York: Oxford University Press, 1971), hereafter cited as *OED*. Dictionary references in this report are to the entries for the words under discussion, unless otherwise stated.

4. Ibid.

5. *A Dictionary of American English on Historical Principals* (4 vols., Chicago: University of Chicago Press, 1938-1944), hereafter cited as *DAE*. See also the *OED*, and *A Dictionary of Americanisms on Historical Principles* (2 vols., Chicago: University of Chicago Press, 1951), hereafter cited as *DAHP*. The *OED*, as might be expected, offers the most extensive reference on the history of words in the English language generally, although its coverage of American usage is uneven, and of pure Americanisms very incomplete. In a purely American context, reliance on or cross-reference to the other two dictionaries is essential, although they are not as widely available as the *OED*.

In the context of this discussion, it should be noted that two centuries-old definitions of "furniture" are still current: the fittings, rigging, and general equipment of a ship or boat; and the trappings or housings of a horse. The term "furniture" today commonly connotes, before all else, the usable large contents of a house or office. But it seems to have acquired that meaning in a roundabout way, by back-formation from terms like "furniture wagon" (for moving household goods), "furniture dealer," and "furniture factory," which entered the American language in the middle decades of the 19th century (DAE, DAHP).

Similarly, although today we commonly take the term "bed" to include the bedstead as well as the mattress and other trappings, that is also a recent extension of the term. "Bedstead" means literally the place for a bed, which, as explained, traditionally meant the mattress (if any) and bedding. But it transferred to the movable item (rather than its place in a room) in logical fashion before the mid-19th century, as the equipment was intended to be furnished with a bed. A bed formerly was created only by the act of sleeping, whereas now a bed may still exist when not in use (OED, DAE). This will come up again, along with "bunk" and other mutating words, in later chapters of this report.

2

BOOTHS AND HUTS OF VARYING SHAPES AND SIZES

(1775-1800)

The story of the furniture issued to American soldiers before 1800 may be quickly told. There was, almost literally, none. Because of the nation's reluctance to admit the need for a permanent military force, and its miserly attitude toward federal expenditures, the few soldiers in national service recieved little more than the most basic necessities during the early years of the republic.

Nor was there much public sympathy for the plight of the common soldier. The colonial experience with British occupation forces left lingering resentment toward all things and people military. Many of the new nation's leaders believed that armies posed an inherent danger to liberty. They remembered with bitterness the quartering of British troops among the people--one of the principal complaints that sparked the Revolution--and the King's military intimidation of the citizenry. Finally, there was the prevailing 18th-century belief, imposed by military doctrine, that even a citizen army should be kept in check brutally. "Let officers be men of sense," remarked Alexander Hamilton, "but the nearer soldiers approach to machines perhaps the better."[1] In short, those who set the course of the young republic cared naught how the soldier lived, except that he be mostly out of sight.

Before the United States could begin to formulate a policy on the creature comforts of the enlisted soldier, it must develop one on the existence and management of an army. In that endeavor the nation heeded its antimilitary traditions and the faith of many of its leaders in the militia, the experience of the Revolution, and the example of the British. But mainly, military policy grew, step by reluctant step, under the pressures of events. Amid the push and pull of conflicting philospophies and realities, the soldier made his bed.

The basic tenet of early American philosophy was that armies existed only to conduct wars; they had no legitimate purpose (consistent with liberty) in peacetime. They gathered when war broke out, at which time were established the administrative structures required to keep the forces effective. One of the first positions authorized in the Continental Army was that of the quartermaster general. Following British practice, that office existed only in wartime and was associated with armies in the field rather than in garrison. The quartermaster general's reach also was much wider than it is today. In effect the chief of staff to the commanding general, he was responsible for intelligence, operations planning, and the issue of march orders to general officers; explored the field of operations, opened and maintained roads, built bridges, and inspected forts; laid out camps and assigned quarters; procured camp equipment and tents, and lumber for the huts used as winter quarters; and was in charge of transport--including horses, wagons, and boats to move and supply the Army. There was no need for permanent quarters in the mission of the Continental Army and accordingly no need for its quartermaster general to build or install fixtures in them.[2]

The persistently short supplies of the Continental Army are so well known as to be almost an American legend.[3] The troops suffered from perennial shortages of food, forage, fuel, straw, clothing and blankets, shoes, and transport. That the Army's needs could not be met can be attributed to unsound currencies, limited domestic materials and manufactures, absence of popular support, congressional interference or inaction, and plain ineptitude. The inexperienced Americans seemed unable to develop a smoothly working administrative system for army supply. The Quartermaster Department, repeatedly reorganized, had several changes in leadership, and came into frequent conflict with departments for purchasing, for clothing, and for subsistence--which themselves were in a constant state of flux. A precedent for the future was instituted toward the end of the war, as Superintendent of Finance Robert Morris gradually took over the purchasing responsibilities of all supply departments, turning increasingly to contracting for rations, and gradually reducing the procurement activities of the Army. When most wartime accounts had been settled, the office of the quartermaster general was abolished by law July 25, 1785.[4]

The administrative chaos and inexperience of the supply departments had unhappy effects on the troops. They suffered for lack of clothes, blankets, food, and shelter. Even when supplies were available, wagons to deliver them often were not, as in the winter of 1780-81. The deprivations that season, following the ghastly winter at Morristown in 1779-80, contributed importantly to the causes of the mutinies of the Pennsylvania and New Jersey regiments in early 1781. The Army managed to survive that crisis, but the shortages of money and supplies persisted into the last campaigns.[5]

With successive quartermasters general flitting from pillar to post to channel supplies to the armies, the troops were left to their own devices to shelter themselves. At the start, when the fledgling Army converged around Boston in 1775, no formal provision was made for quarters. As winter approached, the men turned to and produced "booths and huts of varying shapes and sizes, with or without windows," scattered among the earthworks.[6] One contemporary observer described them as follows:

> Some are made of boards, some of sailcloth, and some partly of one and partly of the other. Others are made of stone and turf, and others again of Birch and other brush. Some are thrown up in a hurry and look as if they could not help it--mere necessity--others are curiously wrought with doors and windows done with wreaths and withes in the manner of a basket.[7]

That is the earliest description of the quarters of the American Army; anything more about the bedding or internal fixtures of the huts must come from conjecture. It is likely that brush and straw, along with whatever blankets were available, were the rule.

In throwing together their rude shelters, the soldiers themselves had established the first policy on army housing. It was effectively ratified by the high command that same winter, because the shortage of domestic cloth made tents hard to come by. Thereafter, as the troops went into winter quarters they were to return their tents to the quartermaster general, who arranged for them to be washed, repaired, and stored for reissue in the spring. In the winter, the men were to live in huts, which they built themselves.[8]

In succeeding winters the provision of quarters became somewhat more organized, although it remained hampered by shortages. The system established was that the men erected and outfitted their own huts, while the quartermaster general's organization provided the tools and materials. In the early winters the huts typically were built of fence rails, sod, and straw for the roofs. If boards were available, they were used for walls and floors; otherwise split logs (called "puncheons"[9] in American usage) did the duty, leveled or chinked with clay, moss, or straw. At Valley Forge, each hut was supposed to have two windows, and each took about two weeks to build--providing it actually was completed. During the winter of 1777-78 straw was in such short supply that many thatched roofs went unfinished, and many men had to sleep on brush or bare ground. When combined with the shortages of food, shoes, clothing, blankets--chiefly because of the breakdown in transportation--such conditions help to explain why fully a third of the 9,000-man Army was declared unfit for duty at the end of December 1777.[10]

Of what we should today regard as furniture in those hovels there is little record. Doubtless many soldiers, with time on their hands and materials available, made simple stools, tables, shelving, perhaps even some sleeping platforms or bunks. At the least the beds would have been composed of straw and the men's blankets and overcoats. The inhospitable conditions and the crowding would have led the men to sleep together at least in pairs, and probably in groups, to share blankets and body heat--not to mention lice, fleas, bedbugs, and the like. The shared camp kettles and mess pans or trenchers (most of the latter and the utensils probably were of wood and made by the soldiers) and related cooking gear, along with whatever personal effects the men might carry with them (or create by whittling to pass the time), would round out the contents of the huts.[11]

The general squalor of the huts was masked by the fact that the only source of light in most of them--except when candles, which were supposed to be among the rations, were available--came from open fires, which filled the huts with smoke. That was a last touch of misery, for as one soldier wrote home from Valley Forge, "My eyes are started out from their orbits like a rabbit's eyes, occasion'd by a great Cold & Smoke."[12]

With experience as a teacher, the Continental Army gradually became expert at erecting its rude shelters. By the winter of 1782 the men were rather comfortably housed at New Windsor in two-room cabins built for 16 men.[13] It had also refined what would be the standard practice of the American Army for almost a century: The Army in the field (which, because of the Indian wars, virtually all of the American Army almost always was) was provided tents in the summer and tools and limited materials with which to build quarters for the winter (which might be occupied for some years). Certain basic items of camp and garrison equipage (kettles, mess pans), clothing (blankets and, in time, bedsacks), subsistence (candles), and necessary straw and fuel (usually cut by the soldiers) would be furnished by the supply officers, but the soldiers must provide the labor and most of the materials to erect their quarters and their fixtures. Only at "permanent fortifications" along the seacoasts and borders might "permanent quarters" be erected, but since those defenses were to be manned chiefly during wartime, such quarters had a low priority. As one historian of army supply has pointed out, a veteran of the Revolution upon entering a barrack sixty years later, or even during and after the Civil War, would have found himself in surroundings little changed from what he had known.[14]

Only two items of barracks furniture, it is reasonably certain to say, were established in the American Army by the end of the Revolution. Both were importations from England--the "bunk" certainly well before the Revolution, and the "palliasse" probably so. Their actual appearance is open to somewhat more speculation, although there was likely a general pattern for each with considerable variation in practice--two traditions that would endure for decades.

The need for each is rather apparent if it is recalled that a pile of straw requires some confinement if it is not to become scattered when slept upon. It is also desirable that men not sleep directly on floors, even if insulated by straw. The bunk, therefore, probably came into being first and may have a considerable antiquity.

The word "bunk," however, may not be so old, and it is highly possible that it was an American coinage later exported to England, for the earliest recorded written use (in the sense of a sleeping place) was in America in 1758, during the French and Indian War: "Our mes being all of|f| duty we made us up 2 straw bunks for 4 of us to lay in."[15] The etymology of the word is obscure and has been related both to "bank" (from the Danish bank, meaning bench), and to "bunker" (from the same root). Both reinforce the general belief among lexicographers that the word first meant the storage bunkers (actually, tiered shelves) in ships' holds and came by analogy to apply to boxlike military sleeping places; only during the 19th century did it extend generally to a sleeping place, although the suggestion of box, recess, bench, or berth remained inherent in the word.[16] The most basic form of bunk, then, may be a box on the floor to contain bedding straw.

From the foregoing, it can also be deduced that the earliest army bunks were so called because they were constructed as parts of the buildings they were in, with later free-standing arrangements acquiring the name by extension. Although they probably were removable--boards being valuable commodities, and it being necessary to disassemble bunks to clean them of vermin--the bunks were by 1780 linked inextricably in the Army's official mind with the buildings they were in. An order of that year says, "The Brigades who hutt are to be allowed no more |boards| than are necessary for making Doores windows and Bonks."[17]

The bunks of the Continental Army were probably simple wooden boxes or platforms with board sides to restrain the straw. Whether they were routinely built in tiers is open to question. The fact that that ultimately became standard practice would reinforce the analogy with tiered ships' bunkers, especially when attached to hut walls. A bunk-filled barrack room would closely resemble a ship's hold.

Straw may also be contained by bagging, so mattresses and bedticks have an ancient history. The military answer to that need was the "palliasse," which is defined as "a sack or mattress of stout material filled with straw and serving as an underbed; a straw mattress . . . . " The word comes from the French root word paille, straw, from the Latin palea, meaning chaff or straw. Apparently it came into British use in Scotland during the 16th century, then in England in the 18th century, first with the French spelling, later as "palliasse," in which form it enjoyed use in the American Army for a few years. The earliest written uses of the term all have military associations,[18] and the connection with bedding straw is inherent. There is therefore every reason to believe that by the time of the American Revolution it was an established item of military supply in the British forces.

The Americans drew upon British precedent for much of their early military history. It is likely that, if the British Army issued palliasses to its men, then the American Army would accept that as customary practice. But because of the persistent material shortages that plagued the Continental Army, especially in tenting cloth, it is not likely that very many of the American soldiers actually enjoyed palliasses during the war. But the principle was certainly established, and the later American Army was more fortunate. Although subject to shortfalls, a palliasse to each pair of men was probably as routinely an item of supply (at least in winter) as blankets, such that by 1801 the War Department saw fit only to regulate the amount of straw purchased to fill them.[19]

As for their appearance, that of 18th century palliasses can be deduced from information of a later period. They were probably of canvas or ticking drill and likely measured no more than six feet long by four feet or less wide, deep enough to hold a truss (36 pounds) of straw, which was inserted through a fly or slot in the center of the top face, secured by ribbon ties. The straw, depending upon local source, would have been of wheat, millet, rye, or barley.

The winter quarters of the Continental Army varied considerably during the Revolution and often were indifferently assembled. Sometimes, as at

Valley Forge, fence rails were looted from the surrounding countryside and used to assemble more or less capacious huts for, commonly, 12 men each. But various shortages led to greater overcrowding. In 1782, however, the Continental Army attained perfection as it built its last encampment at New Windsor, New York. The Army was victorious and by now professional, and General Washington desired that it present a professional appearance before its French allies. He demanded that all structures be built to a high standard, following a common pattern, and even ordered the demolition of several buildings that failed to meet his idea of perfection.[20]

In little more than two months the soldiers built over 700 timber huts and a large assembly building. It was an achievement of which they could be proud, and it set a standard for later years. Indeed, when the new American Army first addressed the question of soldier housing in the 19th century, it was to memories of the New Windsor Cantonment that its leaders referred.

The "Regulations for Hutting" that guided construction were propounded by Quartermaster General Pickering, at Washington's orders, on November 4, 1782. They demanded:

> . . Each hut is to be thirty-nine feet long and eighteen feet broad, divided in the center by a log partition forming two rooms each 18 by 16 feet in the clear. . . .
>
> The sides of the mens huts are to be seven feet, and those of the officers eight feet high; the doors of the former five feet high to be made in the center of the front of each room--of the latter six feet high in the center of the front of their hut--in both to be two feet and a half wide.
>
> A window of two feet by two feet is to be cut in each room of the soldiers huts, within six inches of the [mantlepiece]: each hut of the officers is to have two windows in front each equally distant from the door and the end of the hut, two feet wide and two feet and a half in height.

> The roofs are to be formed with rafters sufficiently braced, and lathed and shingled. The pitch of the roofs to be at 45 degrees, which will raise the ridge pole to a perpendicular height above the plates for upper logs of the sides equal to half the breadth of the hut.
>
> The beam serving as a [mantletree?] to the chimney of a soldiers hut is to be three feet from the end of the hut, and about five feet from the ground or four feet from the floor,--the lower cross sticks to be six feet asunder,--which gives to the bottom of the chimney a measure of six feet by three feet in the clear: from thence the chimney rising in a curve, as regular as may till it gains a perpendicular height of six feet, should there measure two feet six inches by one foot four inches, in the clear from thence the two sides to rise perpendicularly, and the front with a small inclination forward, so that at the top of the chimney which is to be eighteen inches above the ridge pole, it shall measure two feet and a half by one foot and a half in the clear. . . .

To the Chevalier de Chastellux, who visited the New Windsor encampment, the quarters were "spacious, healthy, and well built, and consist in a row of 'log-houses' containing two rooms, each inhabited by eight soldiers when full, which commonly means five or six men in actual fact . . . .But it will appear surprising in Europe, that these barracks should be built without a bit of iron, not even nails, which would render the work tedious and difficult were not the Americans very expert in working with wood."

There is little record of furniture in the eight-man rooms, although it is known that the men built bunks, in which they slept in pairs, and it is believed that the bunks were built onto the hut walls. In view of the generous space available and the limited tool and iron inventory, the simplest arrangement would have been one bunk--no more than a low box for the straw, on the floor or slightly elevated, each of which was common in the civilian world--in each corner. But two-level bunks could not have been unknown to the Americans from some British practice and would have freed floor space and reduced the fire danger if built into corners opposite the fireplaces. Alternatively, a simple bench or shelf across one wall would have equally, and more simply, served the need. Any other furniture, such as simple benches, tables, stools, and shelving, is open to speculation but probably appeared to the extent that time and tools permitted. The men, however, were more interested in going home than in improving their quarters at New Windsor. When peace arrived at last, the Continental Army, and its last encampment, faded away.

Ineffective as it may sometimes have appeared, the administrative apparatus to supply the Army during and immediately after the Revolution was far better organized than it was to be for many years after the establishment of government under the Constitution of 1787.[21] The dissolution of the system began almost immediately after the Treaty of Paris, along with the general dissipation of the Army. In June 1784 the military establishment hit bottom when Congress in effect abolished it: The entire Army was discharged except for 25 privates to guard public stores at Fort Pitt and another 55 at West Point. The states were expected to provide garrisons for the western posts.[22]

The following March Congress authorized a regiment of 700 men for three years (to be raised from the states) but abolished the quartermaster, commissary, hospital, marine, and clothier deparments, turning their functions over to two commissioners under Secretary of War Henry Knox. Knox had to assume the quartermaster's duties personally. Such a system was inherently inadequate and soon became corrupt as well. Supply was so poorly managed that for the next three years the pitiful little Army was almost literally kept starving.[23]

Despite the widespread antimilitarism, some sort of army was necessary to guard the border and intimidate the Indians. But supplying it was comparatively expensive because of the distances involved. The War Department's recourse was to the contract system, with competitive bidding but no apparent standards of quality. Contractors were to provide and deliver rations to the military posts on an annual basis. The first such contract went to James O'Hara of Philadelphia to provision troops at Forts Pitt, Harmar, and McIntosh. His service was satisfactory, but the next year a lower bidder got the contract and the men went hungry. There was considerable uncertainty from year to year, but it was inevitable that to cut costs some contractors would reduce the quality of food or otherwise fall short in performance. Separate contracts for clothing and essential hardware worked somewhat better, being concentrated in Philadelphia, but without supervision the army inevitably suffered.[24]

This rickety supply system provided to the soldier only his clothes, blankets, food, and basic equipment--and to the greatest extent everything but food was drawn from Revolutionary leftovers. The men provided everything else they required through their own labor; that included their buildings and furniture. The military posts were small, stockaded log and puncheon huts built of materials at hand in the surrounding forests, using tools included among the army equipage. With only open fireplaces to heat the small barracks, rum was a popular commodity.[25]

Little is known about the furnishings of those frontier outposts. The character and quality of any furniture, like those of the buildings themselves, probably depended upon the skills and tools available among the men and the time available for construction. To call the huts rustic would probably have been to pay them a compliment. But it is a reasonable supposition that the men provided themselves some form of the wooden bunks that became the 19th-century rule--provided there was space available in a given barrack. Among rural Americans at the time, sleeping in lofts or on pallets was common practice; it may also have been the case in barracks. A "bunk" in a loft would therefore be nothing more than sideboards to box in the straw.

Whatever the actuality, the men would sleep in pairs or groups as they had during the Revolution, and for the same reasons. For other furniture, any group of people with minimal tools can fabricate stools, benches, and tables of the simplest sort from the products of the forest (and the crates that rations arrived in). Given skilled woodworkers in a garrison--almost inevitable in the 18th century, when people all over America built their own homes--some of the furniture might be tolerably well made. But in any case, such items were appurtenances of the buildings, the size and nature of which would determine the nature of the contents. None of the posts was intended to last more than a winter when actually built; impermanence would not call for elaborate furnishings.

So little is known about the surroundings of the soldiers at that time because nobody but the soldiers themselves, few in number, seemed to care (and the soldiers left precious little record of their own). The direction of the Founding Fathers' thinking about military defense may be seen in the Constitution. Article II of the Bill of Rights asserts that "a well-regulated militia being necessary to the security of a free State, the right of the people to keep and bear arms shall not be infringed." This provision reflects more than the Jeffersonian fear of standing armies and belief that with the militia the states could defend the nation on a do-it-yourself footing. It had a practical side as well. If the military burden could be passed to the states through the militia system, there would be no need for an army--and consequently no need to arm, clothe, feed, or pay one--nor to house one, something that Article III of the Bill of Rights forbade the government from passing on to the citizenry: "No soldier shall, in time of peace, be quartered in any house, without the consent of the owner, nor in time of war but in a manner to be prescribed by law."

By 1789 the need for some sort of national force to bolster the ineffective militia system could no longer be denied, as warfare with the Indians in the Northwest rose to new heights. In its first act under the Constitution, Congress established an army of 886 officers and men. At the end of April 1790 the legislators authorized an expansion of the force to 1,273 officers and men (while cutting the monthly pay of a private from $5.00 to $3.00, of which $1.00 was deducted for clothing and medical expenses). The following year a second infantry regiment was added.[26] Thus, the United States Army had its uneasy birth.

But this was not for many years to be an army of forts and barracks. Like the Continental Army, the new Army was created to take the field--this time against the Indians. The provision of army supply was devoted solely to that purpose and conducted by the customary means of low-bid contracting. The result was that inadequate supply was added to the other shortcomings of the poorly planned, disastrous Harmar Expedition of 1790. Clearly something better was needed, so while adding that second infantry regiment in 1791, Congress determined that the services of a quartermaster were necessary. But the parsimonious Samuel Hodgdon, who got the job, was not up to it. Economy ruled, supply contracts went to unconscionably low bidders, and the clothes, shoes, and tents supplied to the troops were little more than trash. The management of supply--like that of the troops and militia--during the St. Clair Expedition (an even worse disaster than Harmar's of the year before) was so weak that half the supplies were abandoned during the hasty retreat. A congressional committee, investigating the debacle, made much of the "gross and various mismangements and neglects in the Quartermaster's and contractors' departments."[27]

So in its own muddling, amateurish way, Congress resumed tinkering with the military establishment. In March 1792 it authorized the recruitment of the two infantry regiments and one artillery battalion to full strength and the raising of three more infantry regiments and four troops of dragoons for three years; ended the pay deductions for uniforms and medical supplies; and allowed an enlistment bounty of $8.00. The same legislation also authorized a quartermaster general--the Army's first contractor, James O'Hara, got the job--to organize supply. But responding to the request of the ambitious Secretary Alexander Hamilton, the lawmakers transferred to his Treasury Department the responsibility for purchase of army supplies,[28] thus setting the stage for bureaucratic conflicts that would bedevil the Army for years. Finally, to complete the national defense package, on May 8, 1792, the Militia Act became law. That law established the principle of universal military obligation, and it also required that militiamen arm and equip themselves.[29]

Thanks to the Indians of Ohio, the highly competent Anthony Wayne was enabled to rise to command of the Army. Determined to avoid another disaster, he instituted a long training program, resisting all attempts to force the Army into the field until his men were prepared. The attentions of his quartermaster general went to supplying the projected expedition, with emphasis on improvements in transport. There was a general overhaul of procurement procedures, and inspections of supplies were instituted. But the quality of clothing and other cloth items remained low, as much for want of sources of supply as because of low-bid contracting without good specifications. With the quartermaster therefore serving an army in the field, there was little thought of barracks in the early 1790s.[30]

As if to emphasize that this was an army without a permanent base, Congress in March 1792 reorganized it once again, this time as the Legion of the United States. The force was to consist of four sublegions of 1,280 men each under brigadiers general. Anthony Wayne became commanding major general and pursued the training of his new-fashioned force. His efforts finally brought success in the Battle of Fallen Timbers and Treaty of Greenville in 1795.[31]

In the meantime Congress' transfer of military purchases to the Treasury Department had begun to cause difficulties. By the spring of 1794 that activity had fallen into the hands of Tench Coxe, commissioner of the revenue. It soon overwhelmed him, and he begged for relief. Upon the recommendation of Hamilton, Congress established the office of purveyor of public supplies in the Treasury Department to procure "all articles of supply requisite for the service of the United States." Tench Francis was the first tenant of the office. In the same legislation Congress established the postion of superintendent of military stores in the War Department. The superintendent's duty was to receive all supplies from the purveyor and distribute them to the Army--with the exception of rations, which were delivered directly to posts by the contractors. Samuel Hodgdon received appointment to the job.[32]

After war with the Indians ceased in 1795, O'Hara thought the position of quartermaster general unnecessary, so he submitted his resignation. In fact, without a campaign to supply, it appeared that he would have nothing to do, since the supply of posts fell to the superintendent of military stores.[33] But in two actions that year and next, Congress reestablished the grade of staff--which continued in existence until March 1797. The quartermaster general lost his military duties of planning logistics for campaigns but now oversaw the supply of posts. In June 1796 O'Hara's resignation was accepted, and another Philadelphia businessman, John Wilkins, Jr., assumed the office (without military rank). Wilkins stayed for six years.[34]

Congress continued to tinker with army supply to the end of the century. In 1797 it deprived the quartermaster general of his deputy and of the services of regimental quartermasters. The next year, with a Navy Department in existence, a threat of war with France in the air, and the Hamiltonians declining in influence, the lawmakers returned procurement authority from the Treasury Department to the War and Navy Departments. But the arrangements only became more confused. The Treasury Department was supposed to inspect and revise the procedures of the other departments, and the purveyor of public supplies continued actually to execute all contracts (except those for rations) at the behest of the other secretaries. The War and Navy Departments handled their own subsistence directly. For the Army, the single greatest expense was the transport of supplies to the frontier posts.[35]

A belief that the Navy would be the nation's first line of defense, coupled with Republican fears (especially after the Whiskey Rebellion) that the Army would be used to suppress the opponents of the Federalists, served to keep the Army small during the late 1790s. So, too, did the eventual easing of tensions with France. But the foundations for future policies--and disasters--had been laid, and the Army, since November 1796 no longer a "Legion," was now a permanent organization with a permanent need for supplies and for housing.

After the Jay Treaty of 1794 and the Treaty of Greenville of 1795, elements of the Army occupied military posts in the Northwest abandoned by the British. A start was also made on coastal fortifications, although those were chiefly unoccupied at century's end. Whether new or old, the quarters of the troops were much as they had been in the 1780s and required constant repair or annual reconstruction.[36] But there was a degree of stability now, and longer tenure would suggest that the troops might provide themselves with some comforts. Buildings large enough to accommodate them likely had some form of wooden bunks in which rested palliasses for pairs of men, but how many had anything more it is now impossible to say. The subject was so mundane that no one wrote about it, and the first official statement related to furnishings for the men appeared in 1801.

One thing is clear: The United States Army was already well on its way to earning its longstanding reputation as the best fed and worst housed military force in the world. The quarters of the troops at the end of the 18th century were not officially quarters but continuations of the winter hutting of earlier campaigns, despite the fact that by that time some of those temporary encampments had been occupied for several years. As the frontier advanced, forts became obsolete, and all were regarded as candidates for abandonment at any moment. The Army made the least investment in building and maintaining them that it could get away with, and needless to say it was not about to spend money for too much comfort within them. It was a pattern that was to persist for decades.

So the soldier of 1800 enjoyed the same "furniture" as his predecessors all the way back to the Continental Army. He got straw to sleep on and a blanket to sleep under, and he did not sleep alone. In fortunate circumstances he might rest in a loft, on a pallet, or in a bunk, and on a palliasse. From his camp and garrison equipage he shared cooking kettles and trenchers or mess pans with the other men of his unit. For heating, his hovel had an open fireplace. For lighting, he and his mates might have a few stubs of candles from among the rations. For interior finish, his barrack might or might not have a board or puncheon floor and a window or two. The walls would be either the flat sides of puncheons or unbarked logs, since they would have been thrown up in a hurry. The finish of any woodwork, shelving, doors, or trim would be that left by the most basic hand tools; sawmills and planing mills at the posts were yet to come.

Finally, not least among the things that a soldier would notice as he fell onto his bed were the hordes of bedbugs that emerged to feast upon him and remind him that, so long as he remained in the Army, he would never want for company.

Notes

1. Hamilton to John Jay, Mar. 14, 1779, quoted in Walter Millis, *Arms and Men: A Study in American Military History* (New York: Putnam's, 1956; reprint ed., New York: New American Library, n.d.), 18. Tactics that called for volley fire and massed bayonet charges required stern discipline.

2. Erna Risch, *Quartermaster Support of the Army; A History of the Corps, 1775-1939* (Washington: Department of the Army, 1962), 2. This excellent volume is the standard work on the subject. In Europe, Germany for instance, the wider role of the quartermaster general persisted into the 20th century.

3. Ibid., 1-73. See also the chapters on the Revolutionary period in William A. Ganoe, *History of the United States Army* (rev. ed., New York: Appleton-Century, 1942); and Russell F. Weigley, *History of the United States Army* (New York: Macmillan, 1967).

4. Risch, *Quartermaster Support*, 70-73.

5. Ibid., 56-58, 62-64, 67-70.

6. Ganoe, *History of the United States Army*, 3.

7. Quoted in Weigley, *History of the United States Army*, 52, and Risch, *Quartermaster Support*, 52.

8. Risch, *Quartermaster Support*, 16-17. There was always a shortage of tents; ships were even stripped of their sails to provide materials for them.

9. Originally, as related to buildings, "puncheon" meant "a short upright piece of timber in a wooden framing which serves to stiffen one or more long timbers or to support or transmit a load; a supporting post;

a post supporting the roof in a coal-mine; formerly also a door post." OED. That is still the commonest definition in England, but it seems never to have migrated to America. Here, the standard definition (which the OED acknowledges as an Americanism) is "a thick, heavy piece of rough timber, usually split from a log and having at least one hewed surface. Also in generic sense." (DAE). The DAE's earliest source is 1725, which describes a town fortified all around "with Punchins." As most commonly used for the next century, the word meant logs split in half, generally to erect stockades or buildings by setting them up in trenches. This, by the way, is echoed in the use of the term "stockaded" into the late 19th century (by which time it had about driven out "puncheon") as a description of buildings or their walls. It universally implies that the walls are of upright logs or puncheons rooted in trenches, without foundations--common in army construction for many decades. In the 19th century the term "puncheon" became more loosely applied to split timbers, sometimes even just thick slabs. The distinction was the absence of dressing--they were at best hewn on no more than one side. "Puncheon tables," "puncheon floors," "puncheon benches," "puncheon doors," and so on were common in the 19th century; they were all built of puncheons, whether half-timbers or slabs depending upon the writer's use of the terms, and would be encountered in barracks. A late use of the term in 1887 identified puncheons specifically as "the side-cuts from logs squared for sawing." The discussion of "puncheon" in DAHP substantially echoes that in DAE. Great care must be taken in using sources employing this word in early American history, first to determine whether the influences on the source were chiefly English or American, and second to see whether distinctions are properly drawn with "picket," which is also frequently used to describe forts and pioneer construction. A "picket" wall or fence or stockade may or may not be of puncheon; the term usually means that the tops of the wall members are sharpened.

10. Risch, Quartermaster Support, 29-35; Ganoe, History of the United States Army, 50; Charles K. Bolton, The Private Soldier Under Washington (New York: Charles Scribner's Sons, 1902), 75. Ganoe says that straw was in short supply because farmers refused to transport it. Risch points to a general lack of transportation that ultimately forced the

resignation of yet another in the one of failed quartermasters general in the first years of the Revolution.

11. It should be pointed out here that those huts were not regarded as barracks, but as the seasonal counterparts to the summer tents. The Continental Army was always in the field and consequently had no barracks, technically speaking, even where, as around New York, it occupied the same quarters for several years. There was a general tendency to put two tentloads of men, 12 in all, to a room, although there was wide deviation and persistent crowding. Sixteen men, eight to a room, was fixed by regulation by 1782 at New Windsor, although in practice the rooms there were usally not full because of the many absences.

12. William Matthews and Dixon Wecter, Our Soldiers Speak, 1775-1918 (Boston: Houghton Mifflin, 1943), 54.

13. Ganoe, History of the United States Army, 84. The word "cabin," by the way, and especially "log cabin," did not become common until years later, the latter popularized by the Whig campaign of 1840. The soldiers described the structures usually as "huts," sometimes as "houses."

14. Risch, Quartermaster Support, 212, 441-42.

15. DAE's first citation.

16. OED says that the word is of unknown etymology, but possibly related to "bank." Its earliest listed written usage is 1815, and its earliest American usage is dated 1866, referring to a sleeping-car berth. Webster's Third New International Dictionary of the English Language, Unabridged (New York: G. C. Merriam Co., 1966), not always a reliable source, suggests that the word is short for "bunker." Webster's New World Dictionary of the American Language Enlarged from the Concise Edition (Nashville: Southwestern Co., 1972), which is more trustworthy, traces the word to the Danish bank, and says that "bunker" is a Scottish extension of "bank," meaning a bench.

The word was transferred to the more general connotation of a sleeping place probably during the 19th century and chiefly in America. The first bunks for soldiers, then, literally were bunks, but eventually anything the soldier slept on was called by the same name. The more literarily fastidious of the Army's hierarchy managed to avoid calling single bedsteads "bunks" until the 1870s, evidently seeing the original meaning inherent in the word to the end. The free-standing, two-story wooden models prevalent in the later period could carry the name "bunk" comfortably because they resembled nothing so much as storage bunkers.

17. DAE. Another quotation from 1780 is, "The bunks and lineing of the bomb proof were taken out." "Bonk" was early variant spelling.

18. OED. The word does not appear in DAE at all, reflecting the fact that it quickly gave way in American army use to "bedsack" and never enjoyed currency in the civilian world. It persevered in Britain, according to the OED, where as late as 1883 the War Office advertised for "Tenders for the Supply of Forage and Straw for Pallasses, for Military Services." Of "bedtick," OED says: "A large flat quadrangular bag or case, into which feathers, hair, straw, chaff, or other substances are put to form a bed," with citiations from the 17th through the 19th centuries. Neither OED nor the two Websters recognize "bedsack." The DAE defines it erroneously as "a sack made to hold (army) bedclothes for convenience of carrying them." But it offers a civilian usage in 1661, with the next ones from Niles' Register in 1811 and 1814, and the Army regulations of 1861. DAHP offers the same four citiations, but more correctly defines the object as "a stout cover or case for bedding, a bed-tick . . . ." DAE defines "bed-case" as "a bed-tick," and shows a long history of the term's use in Colonial times, with the last recorded usage in 1808.

19. On April 28, 1801, Secretary of War Henry Dearborn issued the Army's first real regulations of any stripe, those governing barracks and quarters allowances and the delivery of fuel and straw. On the latter, he said: "One truss of straw weighing thirty-six pounds, is allowed for

each palliass for two men." This was published in 1808 in U.S. War Department, An Act for Establishing Rules and Articles for the Government of the Armies of the United States with Regulations Respecting the Same (Washington: Dinmore & Cooper, 1808), the first general regulations (cited hereafter as 1808 regulations). But the word "palliass" had disappeared by the time of the first revised regulations in 1812, although the straw ration remained one truss (36 pounds) to each pair of men.

A "truss" is an old English unit of measure, still current, for hay and straw. The term derives from a root word meaning to tie into bundles. The three most standard trusses are a bundle of old hay weighing 56 pounds, a bundle of new hay weighing 60 pounds, and a bundle of straw weighing 36 pounds. Webster's Third New International Dictionary.

20. The account of New Windsor is based partly on material provided by Mr. Don Loprieno, interpretive programs assistant, New Windsor Cantonment State Historic Site, New York. Mr. Loprieno also provided copies of the hutting regulations and an excerpt from Chastellux's memoirs, the sources of the two quotations. See also James Meehan, "Demonstrating the Use of Log House Building Tools at the New Windsor Cantonment," APT Bulletin 12(1980):39-44; James W. Wensyel, "The Newburgh Conspiracy," American Heritage 32(April-May 1981):40-47. On construction, see part V below.

21. L.D. Ingersoll, A History of the War Department of the United States, with Biographical Sketches of the Secretaries (Washington: Francis D. Mohun, 1880), 179.

22. Risch, Quartermaster Support, 75-76.

23. Weigley, History of the United States Army, 83-84.

24. Risch, Quartermaster Support, 78-79.

25. Ganoe, History of the United States Army, 93.

26. See appendix N, and Weigley, History of the United States Army, 90-91. There is some confusion about numbers, and actual strengths before 1816 are mostly unknown.

27. Weigley, History of the United States Army, 90-92; Risch, Quartermaster Support, 84-94, 99-100 (quotation at 100); Ingersoll, History of the War Department, 180-81.

28. Weigley, History of the United States Army, 92; Risch, Quartermaster Support, 100.

29. Risch, Quartermaster Support, 93-94.

30. Ibid., 102-05

31. Weigley, History of the United States Army, 92-93. The Legion became the Regular Army again November 1, 1796. Except for Wayne, the highest ranks in the Legion actually were lieutenant colonels. Francis B. Heitman, Historical Register and Dictionary of the United States Army, from Its Organization, September 29, 1789, to March 2, 1903 (2 vols., Washington: Government Printing Office, 1903), 1:139-41.

32. Risch, Quartermaster Support, 82-83. The legislation passed in April. Tench Coxe was one of the more interesting characters of early American history. Born in Philadelphia in 1755, he was a neutralist during the Revolution and served as a member of both the Annapolis Convention and the Continental Congress of 1788. Becoming a Federalist that year, he served as assistant secretary of the treasury and commissioner of the revenue until dismissed by President Adams in 1797. He thereupon switched to the Republican Party and was rewarded with the post of purveyor of public supplies in 1803. When that office was abolished in 1812, he sought but failed to get the postion of commissary general of purchases and stores in the War Department, a post that went to his old foe (see below) Callender Irvine. A life-long merchant, Coxe

was equally as much an economic nationalist as Alexander Hamilton, advocating the development of manufacturing industries in the United States, a revenue tariff, unrestricted interstate commerce, and confinement of import and coastal trade to American vessels. He was such a zealous supporter of cotton culture in the South, and textile industries in the North, that he is known as the "father" of the American cotton industry. He died in Philadelphia in 1824. See the entry on Coxe in the _Concise Dictionary of American Biography_ (2nd ed., New York: Charles Scribner's Sons, 1977), 207, hereafter cited as _CDAB_.

33. Risch, _Quartermaster Support_, 109-10.

34. Ibid., 111-12; Ingersoll, _History of the War Department_, 181.

35. Risch, _Quartermaster Support_, 84, 109-11; Ingersoll, _History of the War Department_, 181.

36. Risch, _Quartermaster Support_, 109.

PART II

ADMINISTRATIVE HISTORY
(1800-1880)

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3

NOT TO RELY ON FORTIFICATIONS BUT ON MEN AND STEEL

(1800-1812)

The miniscule American Army, given only shaky foundations in the 1790s, deteriorated through the first years of the 19th century. During the administration of Thomas Jefferson the cause of the decline can be traced partly to the president's well-established faith in the militia as the foundation of national defense and more generally to his indifference as an administrator. The Army simply was not one of Jefferson's central concerns, and its services of supply reflected presidential neglect.[1]

But the Militia Act of 1792 proved unenforceable, and the growing threat of war with Britain repeatedly forced the Army onto Jefferson's reluctant attention. Immediately after taking office in 1801 the president persuaded Congress to reduce the authorized strength of the Army to 3,040 officers and men--what he regarded as the minimum required to police the frontier and guard the arsenals. By the end of the year its strength stood at 248 officers, nine cadets, and 3,794 enlisted men in four regiments of infantry, two of artillery and engineers, and two companies of light dragoons. That force exceeded the president's notions of necessity, and by 1805 he had cut it to 2,732 officers and men. But nothing could reduce the burden of transporting supplies, for the troops were stationed at 43 posts, the largest holding 375 men at New Orleans, the next largest 220 at Fort Detroit, and the smallest only three men at Fredericktown, Maryland.[2] Obviously, the cost and difficulty of providing supplies to such a dispersed force would match those of a much larger army.

Perhaps the Army was not really worthy of presidential favor. Its enlisted ranks included a mixture of foreigners and renegades from society, frequently drunken and quick to desert. The officer corps was a national disgrace. The senior officer was the nefarious James Wilkinson, one of the most persistent and treacherous schemers in American history. His subordinates were described by Winfield Scott as "swaggerers, dependents, decayed gentlemen and others fit for nothing else . . . totally unfit for any military purpose whatever."[3] Too many of them were relics of the Revolution, strongly inclined "to turn the garden patches they cultivated adjacent to the forts into their principal source of livelihood and interest."[4]

If Jefferson had any ambitions for the Army, he desired that it be useful to the nation. To that end, he and Hamilton arranged for the establishment of the academy at West Point in 1802, making it identical with the Corps of Engineers. With that deed they sowed the seeds of future professionalism, but for some years the Army's chief distinction was its dedication to the laborious and unmilitary activities of road building, river clearing, and exploration. To preside over the military establishment, the president appointed as secretary of war Henry Dearborn, a veteran of the Revolution described as a "former gallant young officer [who] was now fifty and a plodding Republican politician, his most salient characteristic a devotion to governmental thrift surpassing Jefferson's and approaching niggardliness."[5]

The job of secretary of war would have intimidated even a more energetic man. From 1798, when procurement authority was returned to the War Department from the Treasury, to 1812, it was generally believed that the small size of the Army made it unnecessary to maintain in peacetime the sort of staff departments that would be required for supply in wartime. So the secretary of war directed all supply activities and served personally as quartermaster general, commissary general, master of ordnance, Indian commissioner, commissioner of pensions, and commissioner of public lands. He bought all supplies, but only after funds had been appropriated by Congress, which required that all procurement be conducted on a yearly basis.[6] For subsistence, Anthony Wayne had urged in the late 1790s "the aboslute necessity of some [more] effectual & certain mode of supplying the Army than that of private Contract," but the contract system continued.[7] The problem was that the system did not, perhaps could not, work with the Army scattered all over a nearly roadless country and lacking any real supply organization worthy of the name. Some officers protested the constant shortages of food, clothing, and shelter and described the living conditions of the men as "inhuman."[8]

For supplies other than subsistence, the secretary had some organization to support him, after a fashion, but because of persistent congressional tinkering and the poor relations between officials in the two departments involved, its effectiveness was limited. The major innovation in low-bid procurement had come in 1799, when Tench Francis, the purveyor of public supplies, had begun to purchase cloth for the government instead of finished uniforms. The purveyor turned the cloth over to the superintendent of military stores, who stored it. The purveyor then contracted to tailors, who drew the cloth from the superintendent, who inspected and accepted the finished product, at which point the purveyor paid for the work.[9]

All procurement and distribution of supplies were concentrated in Philadelphia, where both the purveyor and the superintendent maintained their offices. Besides the clothing manufacture, the government bought blankets, shoes, camp utensils, military stores, equipage, medicines, and hospital stores--and nothing more. The purveyor executed the contracts, and the superintendent stored and distributed the supplies.[10]

The arrangement was clumsy and inefficient, to the detriment of the men. It was aggravated by extraneous factors like the temporary closing of the Army's Philadelphia office by executive decree in 1801 and by the fact that the responsible personnel were usually absent, supervising the transport of supplies in the field.[11] Also a problem was the institution in 1802 of a system of regional military agents (all civilians) as a substitute for a quartermaster staff. The purpose was to reduce transportation costs by allowing the agents and lieutenants at the posts to manage property, keep accounts, and make small purchases. But the local procurement authority was limited to less than $50.00, so purchasing remained centralized in Philadelphia and ever more cumbersome.[12]

Given good will on all sides, it might have been possible to make the system work. But the purveyor and the superintendent could not cooperate, especially when it came to inspections of supplies. Inspection was originally supposed to be the responsibility of the purveyor, but in 1802 Superintendent William Irvine accused the purveyor of dereliction and instituted inspections of his own. Two years later the secretary of war appointed Irvine to the post of inspector of clothing in addition to his duties as superintendent, although the actual work passed to a clerk. Before long the purveyor and the superintendent had established a tradition of mutual criticism.[13]

New personnel in the key posts aggravated the discord and failed to reform procedures. When Tench Francis died in 1803, he was succeeded by Israel Whelen, who resigned a few months later when he was refused authority to stockpile clothing and other supplies one year in advance in order to ease the administrative burden of annual contracting. Tench Coxe succeeded him as purveyor and tried to obtain authority to stockpile clothing and equipment sufficient to equip 10,000 men in order to eliminate the overordering caused by the annual purchase procedure, but with no more luck than Whelen. The following year, Callender Irvine succeeded his father, William, who had died in office, as superintendent. The relationship between Irvine and Coxe soon deteriorated into an open feud over every issue of procedure and substance. They flatly refused to cooperate.[14]

In 1808 relations between the United States and Great Britain became ominous. At Jefferson's behest Congress tripled the authorized strength of the Army to almost 10,000 men and appropriated money for coastal fortifications and $200,000 for state militias.[15] The effects of the expansion on the procurement system brought matters to a crisis. Domestic cloth of high quality was in short supply; Purveyor Coxe bought the best material available, but much of it was substandard. As a result, Irvine rejected one-quarter to one-third of the garments brought to him for inspection. He ignored the reality of the shortages and suggested that cloth should be sent to the regiments so that army tailors could make the uniforms; the secretary of war disagreed. Irvine blamed Cox for all delays in uniform deliveries, to which charges Coxe responded with recriminations of his own. Despite the secretary of war's attempts at mediation, the feud between the two worsened, and in 1810 Irvine peevishly refused to inspect the uniforms. Secretary Dearborn thereupon returned the inspection authority to the purveyor.[16]

For a time, that seemed to solve the problem of divided authority. It also put Coxe on the course that earned him the title "father of the cotton industry," as he set about to develop domestic sources of cloth. Through an expanded volume of purchases, he could provide considerable encouragement to American millers. During this period he turned increasingly to cotton as a material for blankets and clothing, evidently believing that cotton production could be increased more quickly than that of wool to meet the Army's demands.[17]

As long as the strength of the Army remained far below the authorized 10,000 men--at only 6,744 in early 1812--the procurement of its supplies managed to stagger along. But Coxe by that time was supervising some 5,000 tailors and seamstresses under contract to make uniforms, and doing so with very little staff. When Congress, believing that a show of strength might stave off war with Britain, authorized the enlistment of 30,000 volunteers and expansion of the Regular Army to 25,000 men in 1811, it promised to overwhelm Coxe's system. When the war, and enormous demands for supplies, actually arrived the following year, the military supply apparatus proved utterly unequal to the challenge.[18]

The creaky supply system in place before the War of 1812 was managed with a true spirit of miserliness. It should come as no surprise that the War Department felt no obligation to provide furniture for the comfort of officers and men. As the merest concession to necessity, it provided weapons, clothing, shoes, equipment, and food--and none of them in a dependable fashion. Among those categories could be found the following, which would inevitably make their way into men's quarters: blankets, camp kettles and cooking utensils, and candles (from subsistence rations). In addition, the Army provided straw for sleeping, and probably palliasses to stuff with it.

In fact, the War Department was somewhat dubious about its obligation to provide quarters at all. The first regulations governing barracks, quarters, fuel, and straw were issued in 1801.[19] Although the regulations allotted the numbers of rooms and kitchens to be allowed every officer from commanding general to subaltern, they made no provision at all for rooms for enlisted men. The rules governing issue of fuel, however, apportioned it "to every room occupied as barracks by eight non-commissioned officers, musicians and privates. . . ." It can be deduced from that that the eight-man room that housed the men of the Continental Army at New Windsor had become the assumed standard. That the men were supposed to sleep in pairs can be drawn from the fact that straw for bedding was issued "for each palliass for two men." It is worth noting that at this early date the Army's civilian managers really had not begun to formulate a policy on either permanent or temporary housing for the men, but rather seem to have ratified the continuation of practices that had been established during the Revolution and probably were regarded as customary for armies in general.

The same grounds exist as in the 1790s for conjectures that the men did or did not build bunks, benches, tables, or other furniture as they built their quarters. Conditions doubtless varied from place to place. It should not be assumed that such items were thought necessary, even in "permanent" quarters. In giving instructions on the construction of such buildings at Fort Detroit in 1805, Secretary Dearborn specified "two barracks, each sixty two feet in length, twenty in width, and one and a half story in heighth; each barrack to be divided into four rooms, exclusive of the half story, which should be occupied for lodging rooms. . . . The walls of the half story should not exceed 3-1/2 feet in heighth."[21] If his instructions were followed, the men at Detroit slept in lofts, and any bunks would have been no more than side boards to contain the straw. The lower rooms were supposed to have each a closet and a fireplace, and therefore were for eating and general day use. It seems a reasonable conjecture that the men would have fitted the rooms out with tables, benches, and stools--but through their own efforts. The only officially provided contents would have been the camp cooking equipment, blankets, palliasses (probably), and candles.

Because the 1801 regulations on straw likely approved rather than established a practice already customary, Dearborn's instructions on the buildings at Detroit may be regarded as the first formulation of War Department policy related to furniture in barracks. But he had already implied a more general policy of providing the least in the way of housing, let alone furniture, in remarks to the senior general in 1804:

> Being of opinion that for the general defence of our Country we ought not to rely on Fortifications but on men and steel, and that works calculated for resisting batteries of cannon are necessary only for our principal seaposts, I cannot conceive it to be useful or expedient to construct expensive works for our interior military posts, especially such as are intended merely to hold the Indians in check.[22]

Dearborn's suggestion was to build simple log stockades 120 feet on a side, with a pair of blockhouses on opposite corners. With considerable variation, that is essentially how the Army housed itself on the frontier in the early years of the century. It was not an army in quarters but one in the field, like the Continental Army. The men were issued the necessary equipment for field living, nothing more, often less. If they wanted something else for comfort in their hovels, they were left to their own devices, so long as it cost the government nothing.

Notes

1. Weigley, History of the United States Army, 105-07.

2. Ibid., 104; Risch, Quartermaster Support, 104; Millis, Arms and Men, 59.

3. Weigley, History of the United States Army, 107. Wilkinson's shady history is tangential to this subject. Suffice it to say that probably no historian has ever said much in his favor. He was involved in cabals against Washington during the Revolution, in the Newburgh Addresses, in the intrusion of the Pike Expedition into Spanish territory (which he disavowed when it was captured), in Burr's conspiracy to invade Spanish country around the Red River (which he betrayed), in the disaster at Terre aux Boeufs, and possibly in countless other misdeeds during a long and devious career.

4. Ibid.

5. Ibid., 105-07.

6. Risch, Quartermaster Support, 116-17.

7. Quoted in Weigley, History of the United States Army, 108.

8. Ibid., 108-09; Risch, Quartermaster Support, 117-19. The growing number of military posts required a growing number of subsistence contractors to provide and deliver the goods. The result was that few contracts received any supervision.

9. Risch, Quartermaster Support, 122-23.

10. Ibid., 119-20; Weigley, History of the United States Army, 108.

11. Risch, Quartermaster Support, 122-23.

12. Ibid., 129-33.

13. Ibid., 123-24. William Irvine, an Irishman by birth, had been a brigadier general in the Revolution. Appointed superintendent March 13, 1800, he died in that office July 29, 1804. Heitman, Historical Register, 1:564.

14. Risch, Quartermaster Support, 121-25. Callender Irvine, son of William, had served as a captain in the artillery and engineers from 1798 to 1801. He was appointed superintendent October 24, 1804, and on August 8, 1812 to the new position of commissary general of purchases, staying in that job until his death October 9, 1841. Heitman, Historical Register, 1:564.

15. Weigley, History of the United States Army, 109.

16. Risch, Quartermaster Support, 125-27.

17. Ibid.; see also the contracts and related correspondence on cotton blankets, 1808-12, in the file "Blankets" in the Records of the Office of the Quartermaster General (hereafter ROPMG), Consolidated Correspondence File, 1794-1890, Record Group (RG) 92, National Archives (NA). Hereafter, references to files in the Consolidated Correspondence File will be cited as QMConFile with the name of the file subject: QMConFile--Blankets, RG92.

18. Risch, Quartermaster Support, 145-46; Weigley, History of the United States Army, 111-12, 114-15.

19. Issued April 28, 1801, and reprinted in 1808 regulations, as mentioned in the previous chapter. The 1808 regulations were the first publication of general regulations for the Army after the Revolution; as might be expected, they comprise chiefly a recapitulation of those imposed by Steuben on the Continental Army.

20. Whether the 1801 regulations even applied to the actual situation of the majority of the Army--which was scattered in frontier posts not formally regarded as quarters, but as temporary situations in the field--might be asked, as they are entitled "Regulations to be observed in the allowance of Barracks or Quarters to the Officers of the Army, and in the delivery and distribution of Fuel and Straw to the garrisons on the sea coast and recruiting parties." A later regulation, May 1, 1806, allowed additional fuel north of the 39th parallel.

21. Dearborn to Commanding Officer at Detroit, August 5, 1805, quoted in Francis Paul Prucha, _The Sword of the Republic_: _The United States Army on the Frontier, 1783-1846_ (Toronto: Macmillan, 1969), 173-74. Dearborn's tight-fisted attention to petty details characterized his entire tenure at the War Department.

22. Dearborn to Gen. James Wilkinson, June 28, 1804, quoted in ibid., 173.

4

MADNESS IN THE EXTREME

(1812-1818)

When war erupted in 1812, it burst upon an American nation that was decidely pugnacious but, except for a sufficiently empowered central government, no more prepared for military adventure than it had been in 1775. The tiny Regular Army of less than 7,000 men was scattered in small outposts, mostly untrained, and commanded by men of little talent or energy, a mixture of aging relics of the Revolution and well-connected men drawn from civilian life. There were only 71 graduates of West Point available. The administrative apparatus for army supply was insufficient for peacetime and hopelessly inadequate for a continental war.[1]

Congress knew instinctively that it must prepare for war. To do so it drew upon fading recollections of the Revolution, and acted with a combination of meddling and bungling that in retrospect seem incredible. The lawmakers' niggardly preoccupation with minor details knew no limits; on January 11, 1812 they fixed the exact amount of soap and candles to be provided to enlisted men with their rations.[2]

More serious was the legislators' inept and persistent fiddling with the military supply system, which despite the labors of Coxe and Irvine was in a state of collapse. On March 16, 1812 an act of Congress fixing the peacetime military establishment abolished the positions of quartermasters and turned their duties over to yet another system of "military agents" supposed to be directed by the secretary of war.[3] Twelve days later the lawmakers reversed themselves--at least for the war emergency--and established a Quartermaster Department headed by a quartermaster general with the rank of brigadier general, four deputies (with allowance for four more), and as many assistant deputies as would be needed for field operations. The department was divided into eight districts, only four of which (all north of the Potomac) were accountable to the quartermaster general; the others answered to the secretary of war via military commanders. A 56-year-old veteran of the Revolution, Morgan

Lewis, became the first quartermaster general, but he resigned in less than a year.[4]

The legislation creating the Quartermaster Department thoroughly overhauled--and scrambled--the Army's supply system and was based on hazy congressional memories of the Continental Army. Recalling vaguely that Washington enjoyed the services of a commissary general, the legislators established the position of commissary general of purchases under the secretary of war. What the Congress did not understand was that the commissary general of the Continental army oversaw subsistence, not purchasing, and in the event the law made no provision for supplying rations. Throughout the war they were furnished by contractors, each of whom had a district (not the same as the military districts) and was under contract directly to the secretary of war. And despite congressional eagerness to invade Canada, there was no legal provision for furnishing rations to the invasion forces once they crossed the border. "It is madness in the extreme," protested one officer in 1814, "to attempt to carry on war with such a system." Subsistence contractors were not subject to military law, and throughout the war rations arrived too little and too late.[5]

In establishing the position of the commissary general of purchases, Congress abolished that of the purveyor of public supplies and concentrated procurement authority in the War Department. Nobody, it seems, wanted the new job except Tench Coxe, who for political reasons was not offered it. Eventually it went to Callender Irvine, who accepted the position on the condition that he be allowed to remain in Philadelphia. William Duncan succeeded him as superintendent of military stores, also in Philadephia.[6]

The inadvertent mischief of Congress reached even further. The same legislation that established the Quartermaster Department and the office of commissary general of purchases also created an Ordnance Department and a commissary general of ordnance. The authorities of the several offices were vague and apparently overlapping. The quartermaster general was supposed "to purchase military stores, camp equipage and other articles requisite for the troops." The commissary general of purchases was "to conduct the procuring and providing of all arms, military stores, clothing, and generally all articles of supply requisite for the military service." Neither knew what he was to do. The secretary of war's first attempt, on May 4, 1812, to resolve the confusion by regulation only made it worse. He directed the quartermaster general "to ensure a supply of provisions and a regular distribution thereof to the troops." Quartermaster General Lewis asked, "As the Army is supplied with provisions by contract (the worst of all possible means) what [does the Secretary's regulation] mean[?]" On May 8, the secretary told him to procure supplies necessary for "the accommodation and comfort of the Troops."[7]

The further collapse of the supply system was inevitable. Although Irvine instituted a number of procurement and production improvements--including the cutting of cloth by the government before it went to contract tailors--the production activity remained separated from distribution until the superintendent of military stores came under Irvine's supervision in 1813; for the first year of the war, therefore, Irvine remained as blinded to realities in the field as had Coxe. Lewis toured the posts on the northern frontier in 1812 and found the troops there "destitute" of clothing, arms, and ammunition. Blankets were in persistently short supply in the West. The utterly ineffective supply system eroded morale and contributed significantly to the failure of the Niagara campaign in the first year of the war.[8]

In 1813 Congress tried to repair some of the damage wreaked by its clumsy measures of the previous year. Secretary of War John Armstrong persuaded the legislatures on March 3 to authorize a general staff, including a quartermaster general, to support him in the permanent management of the War Department. The law abolished the position of superintendent of military stores and created a superintendent of military supplies based in Washington. He was a civilian who was to keep accounts of all stores and supplies purchased for the Army volunteer forces and militia and prescribe forms and rules for all officers to whom supplies were entrusted. Assistant commissaries of purchases were also authorized, but compliance with the new procedures was incomplete.[9]

The Quartermaster Department benefited from the reorganization. It now had eight quartermasters general, eight deputy quartermasters general, and 23 assistant deputies. The head of the department was attached to the principal army with the rank of brigadier general. The department retained authorities to employ "masters" for forage, wagons, and barracks and to hire artificers, mechanics, and laborers. Robert Swartout, appointed head of the department in March, had no military experience other than militia service, but that was probably inconsequential. Circumstances, including the condition of the national treasury, made the problem of army supply insoluble. Even the most basic items remained hard to come by, and the quartermasters necessarily devoted most of their energies to the transportation of supplies to armies in the field, employing difficult and expensive methods fairly unchanged from those of the Revolution.[10] Toward the end of the war Congress finally began to consider ending the contract system for subsistence, even introducing a bill for that purpose, but postponed action when the conflict finally came to an end.[11]

The contract system of supplying provisions failed as thoroughly during the last year of the war as it had at the start. And despite Irvine's production reforms, winter clothing usually did not reach the troops until the middle of the cold season. Because of the general lack of clothing, blankets, and shelter, one general asserted that casualties from disease during the war outnumbered those from battle by five to one.[12]

Congress and the War Department did manage, in 1812, to issue new general regulations for the Army.[13] They expanded upon the earlier regulations and to a limited degree revealed the manner in which enlisted men were to be housed during and after the war. To begin with, the Army now acknowledged that the men were to be housed: "To twelve non-commissioned officers, musicians, or privates, one room, or (in the summer) a kitchen."[14] That was a departure from the standard of the eight-man hut born during the Revolution and ratified in 1801, albeit a small one. The Army still lived in tents in the summer and huts in the winter.

Of furnishings for the quarters, "straw for soldiers' bedding" was one of only six categories of articles that quartermasters were allowed to purchase. The others were forage; fuel; stationery; horses, carts, wagons, and boats; and boards, nails, and other materials to build or repair barracks, hospitals, and bridges. Straw was still issued to the men in pairs, although surgeons and commanding officers were allowed discretion to regulate the straw issued for the sick. Palliasses or bedsacks to contain the straw were not mentioned. Officers were made responsbile for keeping the men's quarters clean and in repair when they moved out of them.[15]

Finally, the regulations implied the remaining general-issue contents of barracks by listing the camp equipage detachments were allowed to carry with them, including "one iron kettle, and two tin pans, for every six men," and the congressionally prescribed four pounds of soap and one and one-half pound of candles to every 100 rations.[16]

The actual contents of the winter quarters of the armies during the war probably varied widely and, because of the failures of the supply system, would often come up short even of the items prescribed by the regulations. For instance, in 1813 the secretary of war intervened personally to have the quartermasters correct the deficiencies in erection of huts and provision of wood and straw for the troops assembling at Sackett's Harbor.[17]

On the other hand, some promise of improvement in the future emerged from the war. One, as suggested by the regulation on the cleanliness of quarters, was a growing appreciation of the need for sanitation. When Winfield Scott established the camp of instruction in New York in 1814 to train the army that earned glory at the battles of Chippewa and Lundy's Lane, he included camp and field police and sanitation in his course. Although the men there were housed in tents, the lesson was bound to be applied to the log huts of winter, into which category frontier army posts fell.[18]

In March 1814 Congress tried to abolish the Quartermaster Department as part of the postwar demobilization, but the president retained Swartout and two deputies to supervise government property and pay of claims. Irvine lost all of his deputy commissaries, but gained complete responsibility for procurement. Thereafter, supplies were purchased and concentrated in Philadelphia, with a deputy quartermaster general stationed there to arrange transportation to the field.[19]

These provisional arrangements continued for some time as Congress hastened to dismantle the Army, which in 1815 it cut to an authorized size of 12,383 officers and men in eight regiments of infantry, one rifle regiment, one of light artillery, a Corps of Artillery to man permanent fortifications, and the Corps of Engineers. The secretary of war in the same year asked for a permanent army staff, including a quartermaster general, at army headquarters, but the following year Congress ignored him and authorized only divisional and brigade staffs and continued the existence of the commissary general of purchases. These arrangements lasted another two years.[20]

But Congress' wish to avoid creating a permanent military organization could not withstand the reformist zeal of Secretary of War John C. Calhoun, who took office in 1817. He pushed relentlessly for a sound military establishment, with a system of permanent fortifications and a thoroughly professional army led by the graduates of West Point, an institution he strengthened during his tenure in office. He had other successes as well, although some of them were temporary. The Corps of Engineers received $3 million for construction of seacoast fortifications from 1817 to 1824, but the program slowed thereafter. Unfortunately, the new works went mostly unmanned. Calhoun also obtained authority to erect a line of posts up the Missouri River to its junction with the Yellowstone in 1817, but Congress almost immediately reduced that program for reasons of economy. Nonetheless, by 1818 the number of posts occupied by the Army had grown to 73 (from 27 in 1801 and 43 in 1805).[21]

Perhaps Calhoun's greatest success came in April 1818, when he persuaded the Congress to establish a permanent system of staff departments, based in the War Department and continuing in peacetime. The Quartermaster Department included a quartermaster general with the rank of brigadier general, two deputy and four assistant deputy quartermasters general, and as many others (up to a limit of 12) as would be needed for the conduct of operations. In addition, each regiment and battalion detailed an officer to serve as quartermaster. To the head of what would become a progressively more systematic mechanism for housing, moving, and supplying the Army, Calhoun on May 8, 1818 appointed the 30-year-old Thomas S. Jesup. The "father" of the Quartermaster Corps, as he would be known in later years, stayed in the job 42 years and gave his department the organization it would retain well into the 20th century.[22]

In the same legislation, Congress abolished the contract system of provisioning the Army that had been in effect since 1781, establishing a Subsistence Department headed by a commissary general of subsistence. The new system proved to be much more economical and effective than the old, but it threw a large immediate burden on the Quartermaster Department, which now had to transport rations to the military posts along with other supplies. However, Congress approached this solution in tentative fashion, giving the Subsistence Department only a five-year life; it did not become permanent until 1835.[23]

Although it was to take until the next century to establish a unified procurement and supply system for the Army, at least the new departments had clearly separated duties and were rid of the overlapping authorities of the war years.

As might be expected, the question of furnishings for the quarters of the men claimed little administrative attention during the immediate postwar years, except as the subject had already been addressed in the regulations promulgated in 1812. It is known, however, that the frontier posts gradually came to be better built after the war, with sawn lumber increasingly replacing rough or hewn timbers and puncheons for many applications.[24] A veteran of the construction of Fort Lookout, Dakota, in 1856 described the procedure that was probably general much earlier: "One of the first things the master-mechanic did was to erect a whip-saw for getting out flooring and roofing boards. This saw was worked by two men, one above and the other below the elevated log. It was slow, laborious work."[25]

The men still provided their own quarters, but they may have begun receiving better tools to do it with. When sawn boards were available for floors and roofing (not by any means universal, even in later years), then they were probably available as well for bunks, benches, and tables. The bunks at least probably were established almost universally after 1817, although they got no official recognition until 1821.

The only other item of furniture that entered the administrative vocabulary during this period was the "bedsack," both double and single, manufactured and so-called by the commissary general of purchases at least before 1817.[26] It was merely the old "palliasse" renamed with characteristically American directness. The straw issued to fill the bedsacks remained governed by the regulations issued in 1808 and 1812.

The administrative machinery was now in place by which the Army could begin to formulate a policy on housing. But for the interim, its only policy would be continued ratification of field practices, and the provision of the barest of necessities so that the men could make themselves a place to sleep.

Notes

1. Weigley, History of the United States Army, 115, offers an excellent summary of the condition of the military establishment at the outbreak of the war.

2. U.S. War Department, Adjutant and Inspector General's Office, Military Laws and Rules and Regulations for the Armies of the United States (Washington: n. pub., 1813), 75 (hereafter cited as 1813 Regulations). The amount prescribed by law was four pounds of soap and one and one-half pound of candles with each lot of 100 rations, and remained unchanged for many years.

3. Ingersoll, History of the War Department, 181.

4. Risch, Quartermaster Support, 136-39.

5. Ibid., 139-41, 142-43; Weigley, History of the United States Army, 119-20. The officer was Lieut. Col. Thomas S. Jesup, later to become quartermaster general.

6. Risch, Quartermaster Support, 139-41. Irvine remained in the job (and in Philadelphia) until his death in 1841. In 1842 his activity was finally absorbed into the Quartermaster Department.

7. Ibid., 141-42; Weigley, History of the United States Army, 112-13.

8. Risch, Quartermaster Support, 146-47, 149, 162, 167, 169.

9. Ibid., 151-52; Weigley, History of the United States Army, 123.

10. Risch, Quartermaster Support, 152-55; Weigley, History of the United States Army, 124.

11. Risch, *Quartermaster Support*, 143-44.

12. Ibid., 176-77.

13. 1813 Regulations. They took effect in 1812 but were not printed until May 1, 1813.

14. Ibid., 205.

15. Ibid., 203-05, 208-09.

16. Ibid., 75, 209.

17. Risch, *Quartermaster Support*, 177-78.

18. Weigley, *History of the United States Army*, 129. Weigley says that the lessons on sanitation were drawn from the Terre aux Boeufs experience, which he describes at pp. 113-14. In April 1809, James Wilkinson was ordered to the vicinity of New Orleans with about 2,000 men, whom he established on low ground within the city. By the middle of the month over a quarter of the force was on sick call from poor camp sanitation, miserable rations, and the vices of the city, while Wilkinson conducted personal business in New Orleans and dallied with his current mistress. The Secretary of War ordered the force to move upriver to higher ground, but when Wilkinson finally did move in June it was to a swamp south of the city, on which the Army had to pay rent, while the inveterate plotter remained in New Orleans. The Secretary finally had to issue a flat order to move upriver, but Wilkinson himself became sick and delayed the move until fall. Meanwhile, he struck a crooked bargain with the subsistence contractor, so that rotten food aggravated the effects of the filth and overflowing ditches of the camp. By the end of the ordeal over 1,000 men had been lost, 166 to desertion and the rest to death; about 40 officers resigned or died. It was one of the worst peacetime disasters ever to hit the Army, but it at least started its leaders thinking about hygiene. But not even that sorry episode could bring the Army to get rid of Wilkinson; the old "traitor, liar, and scoundrel," as Winfield

Scott was once court-martialed for calling him in public, gained an honorable discharge in 1815. Heitman, Historical Register, 1:1037.

19. Risch, Quartermaster Support, 177-78.

20. Ibid., 178-79; Weigley, History of the United States Army, 139; Heitman, Historical Register, 2:578-79.

21. Weigley, History of the United States Army, 133-34, 143, 144-53, 158-59, 163-64.

22. Ibid., 133-35; Risch, Quartermaster Support, 181-82; Ingersoll, History of the War Department, 182. Jesup, a Virginian who later moved to Ohio, joined the Army as a second lieutenant of infantry in 1808. He had risen to the rank of major by April 1813 and became a lieutenant colonel in 1817. Promoted to colonel the following year, he served briefly as adjutant general before assuming the Quartermaster Department post, with the rank of brigadier general. He was one of the heroes of Chippewa and Niagara and earned three brevets during his career. He died in office June 10, 1860. Heitman, Historical Register, 1:573.

23. Risch, Quartermaster Support, 182, 202-04.

24. Prucha, Sword of the Republic, 175. Actually, sawn lumber had been used since the Revolution for floors, roofs, and bunks, but how widely is impossible to say.

25. Augustus Meyers, Ten Years in the Ranks, U. S. Army (New York: Stirling Press, 1914), 117.

26. Annual Report of the Commissary General of Purchases, 1822 (hereafter ARComGenPur 1822), Military Affairs Document 235 (Mil. Aff. Doc. 235), 17th Congress, 2nd Session (17 Cong. 2 Sess.), American State Papers, vol. 17 (ASP 17). Irvine reported that single bedsacks cost $2.50 in 1817 and $2.20 in 1822, and double bedsacks $2.57 apiece in 1822. "No double bedsacks [were] made in 1817," he added. It is likely

that he was producing them before that year. In the same report he gave the price of wool blankets--cotton ones appear to have vanished along with Tench Coxe--as $2.90 in 1817 and $2.70 for 1822 and 1823. "The last contract price for domestic blankets was $2.90; since which, blankets have been procured at $2.70, of the best quality." Before the appearance here of the term "bedsack," the men's sleeping accommodations had been termed "palliasses," mentioned in the 1801 regulation. But it should be pointed out that DAE and DAHP both report written use of "bedsack" in 1811 and 1814.

5

MATERIALS SHALL BE FURNISHED AT THE PUBLIC EXPENSE
(1819-1838)

Jesup set about immediately to organize his new department and reform its procedures. In 1819 he faced his first major duty, that of providing logistical support--transportation, supply, and construction of winter quarters--for two major expeditions into Indian country. The department transported and succored the expeditions with steamboats engaged under contract, and the costs quickly got out of hand, greatly exceeding appropriations. From that year forward for decades, the principal responsibility of the Quartermaster Department would be to provide transportation to an army always on the move, in the process attempting to estimate its cost almost two years in advance. The job was almost impossible, and it left precious little resource for the department's other responsibilities.[1]

Those other responsibilities included the construction of posts on the frontier. The procedures followed reached back to the origins of the Army and reflected the established attitude that frontier posts fell into the same category as winter quarters in a campaign. The troops felled trees, provided the lumber, and built the posts. The quartermasters furnished nails and tools and such technical direction as their abilities allowed. That stopped in 1820 when Congress halted construction on the frontier as an economy measure. But ultimately that deed aggravated the larger problem, for nearly all the posts soon fell into decrepitude.[2] During the same year the War Department directed the Corps of Engineers to erect the barracks, quarters, and storehouses at the coastal fortifications, charging the costs to the appropriations made for the defensive works and further reducing the Quartermaster Department's attention to barracks and quarters.[3]

The official inattention to housing threw an enormous nonmilitary labor burden upon the troops, who in the circumstances often could build only the most rudimentary kinds of buildings. The primitive structures, almost universally of wood, demanded constant repair or reconstruction--again with the cost paid from the sweat of the men instead of the public purse. "The ax, pick, saw & trowel," an officer complained, "has become more the implement of the American soldier than the cannon, musket, or sword."[4] But even the labor available for repair was limited by the fact that much of the Army was engaged continually in the construction of roads in the wilderness or tending its large gardens.

In 1821 Congress rejected Secretary of War Calhoun's plan for an "expansible" army and to save money reduced the existing force by more than half, from over 12,000 officers and men to 6,126 (authorized; actual strength was usually less). The same law also reduced the staff departments, cutting the Quartermaster Department roster severely while at the same time increasing its responsibilities. Nor was Congress' penchant for tinkering with supply wholly at rest; despite its clear definition of the departments in 1818, the legislature now introduced administrative overlaps between the Quartermaster and Subsistence Departments. The quartermasters got no relief until 1826.[5]

But in the same legislation Congress adopted for the government of the army its first really comprehensive set of regulations, compiled by Winfield Scott.[6] Those regulations reflected a more comprehensive approach to the management of army life and increasing concern for the well-being of the soldier. As an example of the broadened awareness, they mandated a minimum standard of cleanliness in fact as well as appearance Not only were uniforms to be kept clean and neat in appearance but underwear was to be changed three times a week in midsummer and twice (Sundays and Thursdays) the rest of the year. The men were to wash their hands and faces daily after fatigue, "shave themselves (if necessary), and brush or comb their heads . . . ."[7]

As regards quarters and their contents, it is doubtful that the 1821 regulations established any new practices; rather they further ratified or amended established customs. In doing so, they made an important distinction between garrisions and "other troops in quarters," who were defined as "troops in barracks, or cantonments"--in other words those

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not in permanent fortifications on the seacoasts.[8] Both groups, however, were to follow the same procedures to the extent possible.

Certain items of furniture and finish made their appearance in the 1821 regulations. The men officially now were supposed to have bunks, to which their names were to be affixed, and arm racks, since the arms and accoutrements were to be placed in them in a certain fashion. The bunks had shelves as well, an upper and a lower (the latter the sleeping level) for display of knapsacks and hats. There were pegs for belts and swords in the barracks (if the regulations were followed) and other pegs for shoes; the latter were on the bunks, as the shoes were to be "hung on a peg over the bolster." That bolster was probably the bedsack issued in the army, but the words "bedsack" and "palliasse" did not appear. Finally, the regulations said that there should be closets or recesses for cooking and table utensils, shelves for bread, and hooks out the back windows for meat and that firewood should be put in boxes near the fireplaces. To keep all in order, Saturdays were set aside for the overhaul of bunks and bedding and the cleaning of floors, tables, benches, and military hardware.[9]

The regulations also spelled out in some detail the duties of quartermasters, including the supervision of barracks and quarters. However, "no permanent barracks or quarters . . . [were to] be erected at the expense of the United States, but by order of the Secretary of War."[10] The quartermasters now allotted fuel to the men in groups of six (it had been 12 in 1812), and once again straw was issued to the men in pairs: one 18-pound truss (half the previous allowance) at the start of the month, with a refreshment of four more pounds after 15 days.[11] Every group of six men received among their camp and garrison equipage one iron kettle, two tin pans, and one hatchet, although instead of kettles "iron pots may be furnished to troops in garrison."[12] But no longer was crating to be freely used: "All casks and boxes, in which clothing, camp equipage, and other stores may be received, shall be carefully preserved and returned to the quartermaster, who shall cause them to be sold, and account for the proceeds in his next quarterly account.[13]

The Army evidently felt that it had given enough attention to the comforts of the men in 1821, as it made no change in the apposite sections when new general regulations were issued in 1825,[14] except to increase the fuel allowance for officers (but not for the men).

The quartermaster general had other things on his mind. After a jurisdictional dispute with Irvine, in 1824 Jesup instituted a system of accountability for clothing and equipment issued to the troops; it became a matter of law in 1826 and remained essentially unchanged until World War I. His reform regularized the distribution of general issues and required keeping a record on each soldier. But the bureaucratic squabble persisted. In 1821 the Quartermaster Department had gained the duty of preparing the annual clothing estimates; but in 1832 Congress established a Clothing Bureau, removing the responsibility from both the Quartermaster Department and the Purchasing Department. That curious arrangement persisted until 1840, when the Clothing Bureau went out of existence. Procurement responsibility for all items except subsistence and ordnance finally merged into the Quartermaster Department in 1842.[15]

"The duties of the officers of this department," Jesup reported, "relate principally to the movement and quartering of the troops, the purchase, preservation, and distribution of public property, the erecting of barracks, storehouses, hospitals &c., and the survey and construction of military roads."[16] It was a tall order; road building in particular had become such a major responsibility that in 1825 the quartermaster general devoted virtually his entire annual report to the subject, not even mentioning quarters and scarcely touching on any other matter.[17]

In fact, for some years the department gave little attention in its daily operations to housing the soldiers. The troops, Jesup told an officer in 1827, were expected to be able to "cover themselves comfortably wheresoever timber is to be found."[18] But although the Army followed that rule for much of its history, it gave precious little guidance to the troops. Specific instructions for buildings, let alone furniture, were not forthcoming. That was not because they were not wanted or requested. "To the same expression, different readings will be given," Inspector

General Col. George Croghan wrote from Fort Snelling, Minnesota, in 1826, "however correctly and precisely they may be worded. To obviate all this and to insure exact uniformity it is necessary that correct drawings of both bunks and arms racks, exhibiting their forms, position with relation to the chamber, mode of numbering, etc., be furnished to each post."[19] But all the evidence shows that his plea was ignored. The details of furniture construction varied greatly from place to place, depending upon the skills and the whims of officers and men, with the exception of general issue objects like blankets and kettles.[20]

But the subject of the Army's housing could not be ignored indefinitely. The moratorium on construction imposed by Congress in 1820 within five years left the physical plant at many posts on the verge of collapse. The Quartermaster Department made a survey in 1825 of all military posts in order to support its request for a renewal of construction appropriations. Unfortunately for those who want details, the descriptions were in very general terms, stressing the need for improvement. One point stands out. Apparently the way the Army laid floors (or washed them) caused them to deteriorate quickly. The survey report repeatedly referred to the sorry state of the floors at post after post, even in buildings otherwise described as in excellent condition. Where the report did not condemn the flooring, it said that it had been "recently repaired." The Army's habit of washing the floors weekly doomed even those built on joists. But from what is known about general construction practices in the early years, the report would support the inference that some army floors were composed of puncheons or slabs laid directly on the ground.[21]

As a result of the widespread deterioration, the Quartermaster Department was allowed to resume making repairs and building new barracks in 1825. The administrative procedure was for the quartermaster general to make an estimate of costs, after which Congress would appropriate money for approved projects--each requiring a separate accounting. In the field, the quartermasters supervised troop labor, requisitioned tools and materials, and submitted accounts of all expenditures. If troop labor was unavailable, the Quartermaster Department hired civilian laborers, funds permitting. The structures erected remained simple, sometimes primitive, and predominantly of wood, except where plans dictated permanent construction. Stone and brick construction was authorized in 1826 for Jefferson Barracks, Missouri, for instance, because it would house the infantry school.[22]

In 1833 the quartermaster general for the first time addressed furniture in specific terms. That year he asked that his department be allowed to construct or provide simple furniture for officers' quarters, including among his reasons the question of simple fairness, since the Navy provided furniture for its officers. Although that issue was raised repeatedly over many decades, Congress never went along with the idea.[23]

But the thought of furniture must have remained in someone's mind, for when new general regulations were issued in 1835,[24] the Army for the first time in its history said specifically that it would provide furniture for the use of enlisted men, whose well-being (and high desertion rate) had attracted growing attention at headquarters. In basic outline, the 1835 regulations pertinent to furniture and barracks maintenance remained essentially the same as before, albeit somewhat more concise. The major amendment was that the day for policing the barracks was changed to Friday. There were also some important additions, including a requirement that a soldier receive one blanket in the first year of his three-year enlistment, another in the second, but none in the third.[25] The most interesting new entry was the first definite statement of policy on providing furniture for enlisted personnel:

> Materials shall be furnished at the public expense for bunks, benches, and tables, for soldiers' barracks, and hospitals, which shall be made under the direction of the officers of the Quarter Master's Department, by artificers drawn from the companies. These articles shall be considered as fixtures, and shall bear the numbers of the rooms for which they are provided, and shall not be removed, except by the authority of the officers of the Quarter Master's Department of the respective posts. Commanding officers of companies, and

> attending Surgeons, will receipt and be held accountable for them.[26]

As evidence of the Army's concern (such as it was) for the comfort of the men, to the straw allowance (still 18 pounds, with refreshment, for two men) was appended a warning: "Straw is not a personal allowance or emolument--it is furnished to secure the health and comfort of the soldiers, and is not, on any account, to be sold for their benefit; if not used by those for whom it is provided, as bedding, it is to be returned to the Quarter Master's Department."[27]

Finally, the previous recommendations on cleanliness were strengthened somewhat, although not yet cast as requirements; bathing was "recommended," although the feet were to be washed twice a week.[28] Provisions like that reflected the growing influence of army surgeons, who were becoming increasingly sophisticated about the connection between sanitation and health.

Although the 1835 general regulations had broached the subject, clearly some more comprehensive policy on the construction of barracks and other buildings was required. The absence of central guidance meant that construction (and expenditures) were uncontrolled, and in the event of army expansion they could get entirely out of hand. For the moment, with the actual strength of the Army at 7,000 men and its budget held down, that threat seemed distant. But the Seminole War brought on a tremendous strain, drawing a quarter of the total strength to Florida immediately, eventually causing the erection of a large number of posts in the war zone. Perhaps most important, that conflict demonstrated that the peacetime military establishment was far too small to meet the nation's needs, even without the threat of war from abroad. In 1838, Congress raised the Army's authorized strength to 12,539 men.[29] The need for housing ballooned overnight.

The Quartermaster Department went to work immediately to establish a policy, and by the end of the year the secretary of war, Joel R. Poinsett, could announce with evident satisfaction that his department had adopted regulations to govern the construction of buildings by the Army "so as to avoid all unnecessary extravagance, and at the same time secure solidity, uniformity, and durability."[30]

The regulations, issued November 24, 1838 over Poinsett's signature, were eight in number.[31] They specified materials ("none but the best kind shall enter into the construction"), workmanship ("plain, workman-like, and free from all ornament not necessary to a neat finish"), doors and shutters, roofs (of "durable and incombustible substances"), piazzas, stairs, interior work (including " the floors tongued and grooved," walls plastered, and "wood work painted," among other details), and finally stipulated that "no Building will hereafter be erected or repaired, or additions be made, under any of the Departments, but in fulfillment of plans and estimates previously submitted and approved by the Secretary of War."[32]

Those regulations were very broad, gave few details, and made no mention at all of such things as furniture. Futhermore, they applied to the "construction of the permanent public buildings hereafter to be erected . . . ." Those were something the Army built very few of. Only by indirection could it be said that the new rules governed the vast majority of military posts, scattered across the frontier and not regarded as "permanent." For them the old policy of tents in summer and huts in winter was still in force; budgets were too small to allow anything else, even where the "winters" lasted year-round, year after year.

The typical soldier of 1838 lived in conditions that were little better than those of a generation earlier, and that would not have been at all unfamiliar to a veteran of the Continental Army. The new regulations expressed an ideal, and in them lay hope for the common soldier. As a foundation for more comprehensive policies in the future, they raised at last a real possibility that the living conditions of the men might improve.

Notes

1. Risch, *Quartermaster Support*, 188-93, 204-09.

2. Ibid., 210.

3. Ibid. In 1824 this was modified by making the Quartermaster Department responsible "for construction and repair of all storehouses and sheds necessary to secure and preserve public property at Fortifications."

4. Zachary Taylor to Jesup, Sept. 18, 1820, quoted in Prucha, *Sword of the Republic*, 169.

5. Risch, *Quartermaster Support*, 195-97; Weigley, *History of the United States Army*, 142; Heitman, *Historical Register*, 2:580-81.

6. U. S. War Department, *General Regulations for the Army; or, Military Institutes* (Philadelphia: M. Carey & Sons, 1821), cited hereafter as 1821 Regulations.

7. Ibid., 47-78.

8. Ibid., 68.

9. Ibid., 68-70.

10. Ibid., 182.

11. Ibid., 188, 194.

12. Ibid., 194-95.

13. Ibid., 196.

14. U. S. War Department, *General Regulations for the Army; or, Military Institutes. Revised by Major-General Scott* (Washington: Davis & Force, 1825), cited hereafter as 1825 Regulations.

15. Risch, *Quartermaster Support*, 199; Ingersoll, *History of the War Department*, 185-86.

16. Annual Report of the Quartermaster General, 1828 (ARQMG 1828), Mil. Aff. Doc. 390, 20 Cong. 2 Sess., ASP 19.

17. ARQMG 1825, Mil. Aff. Doc. 284, 19 Cong. 1 Sess., ASP 18.

18. Risch, *Quartermaster Support*, 210.

19. Quoted in Burton K. Kummerow and William L. Brown III, *The Enlisted Barracks at Fort Snelling: A Study of Military Furnishings in the 1820s* (Jessup, Md.: Historic Reproductions, 1972), 12. Mr. Brown graciously provided a copy of this report.

20. In these cases the Purchasing Department wrote the specifications in its contracts to suppliers. By 1831 (and probably much earlier) kettles were issued in nests of three, along with mess pans and mess cans. A typical specification is offered in Irvine to Robert Dingee, Feb. 5, 1831, quoted in ibid., 24. The prices paid for blankets, but not the specifications, are discussed with other clothing items in ARComGenPur every year. In 1828, 1829, and 1830 the price was $2.50 a pair; in 1831, $2.45; in 1832, $3.00; in 1833, $2.87-1/2; in 1834 through 1838, $3.00. ARComGenPur 1829, Mil. Aff. Doc. 410, 21 Cong. 1 Sess., ASP 19; 1830, Mil. Aff. Doc. 458, 21 Cong. 2 Sess., ASP 19; 1831, Mil. Aff. Doc. 485, 22 Cong. 1 Sess., ASP 19; 1833, Mil. Aff. Doc. 551, 23 Cong. 1 Sess., ASP 20; 1834, Mil. Aff. Doc. 585, 23 Cong. 2 Sess., ASP 20; 1835, Mil. Aff. Doc. 613, 24 Cong. 1 Sess., ASP 20; 1836, Mil. Aff. Doc. 699, 24 Cong. 2 Sess., ASP 21; 1837, Mil. Aff. Doc. 745, 25 Cong. 2 Sess., ASP 22.

21. "State of Barracks, Quarters &c. occupied by the troops, or in charge of the Quartermasters Department, April 1825," ROQMG, Miscellaneous Records Relating to Reservations and to Buildings, 1819-1865, RG92, NA. A written use of the Americanism "puncheon" offered in *OED* and dated 1805 reads as follows: "A floor of puncheon or split plank were laid, and covered with grass and clay." Such flooring (where there was any but dirt) was typical of pioneer construction and probably of the Army's as well, although some posts built before 1820 did have proper floors built on joists. Dirt floors became more common after 1825.

22. Risch, *Quartermaster Support*, 210-11. Without a special appropriation the department was not allowed to build at all, so at many posts the men occupied "temporary" quarters primitive in the extreme. See for example the case of Fort Crawford in ARQMG 1827, Mil. Aff. Doc. 360, 20 Cong. 1 Sess., ASP 19.

23. ARQMG 1833, Mil. Aff. Doc. 551, 23 Cong. 1 Sess., ASP 20.

24. U. S. War Department, *General Regulations for the Army of the United States; Also, the Rules and Articles of War, and Extracts from Laws Relating to Them* (Washington: Published by Authority of the War Department, 1835), cited hereafter as 1835 Regulations.

25. Ibid., 209.

26. Ibid., 147.

27. Ibid., 152.

28. Ibid., 13.

29. Weigley, *History of the United States Army*, 161-62; Heitman, *Historical Register*, 2:584-89, 626. Actual strength did not exceed 11,000 until 1847 and was usually around 10,000 during the Seminole War.

30. Annual report of the Secretary of War, 1838 (ARSecWar 1838), Senate (Sen.) Doc. 1, 25 Cong. 1 Sess., 105.

31. "Rules and Regulations for insuring uniformity and a due economy in the construction of the permanent public buildings hereafter to be erected for the use of the quartermaster's Engineer, Ordnance, and all other departments of the army," signed Nov. 24, 1838, and promulgated in General Order No. 51, Nov. 28, 1838, Records of the Adjutant General's Office (RAGO), Orders and Circulars 1797-1910 (Orders and Circulars), RG94, NA; cited hereafter as Building Regulations 1838.

32. Ibid. The regulations applied to the Quartermaster, Engineer, Ordnance, "and all other departments of the army."

6

THE WORST LODGED ARMY IN CHRISTENDOM

(1839-1860)

"Perfectly isolated as these outposts are . . . the soldier [must] kill the hours of a tedious solitude, and beguile away the loneliness of his situation."[1] So said a British visitor, observing life at the frontier stations of the United States Army in the 1840s. To the soldier in such places, the sense of isolation must have been reinforced by a belief that no one cared about the squalor in which he usually lived. Before 1840, that was very nearly the case among those who governed the Army from Washington.

During the Army's first half-century and more, the creature comforts of the enlisted man recieved only incidental attention in the administration of the military establishment. Regulations and procedures touching upon the subject were intended not so much for the benefit of the soldier but to control the government expenditures. How the military hierarchy's thinking typically worked is reflected in the way the Army heated barracks and quarters. That was to be done by open fireplaces, which could be built by the men at little cost, and wood was usually provided by the labor of the troops. But by the early 1830s wood was becoming scarce even around many frontier posts, and especially along the East Coast, forcing the quartermasters to spend growing sums of public money to buy and transport firewood. In addition, open fires in the mostly wooden structures housing the men were hazardous--and it cost some money to replace even the rudest building after it burned down, not to mention the clothing and equipment it might contain.

Accordingly, and strictly as an experimental economy measure, in 1831 the secretary of war authorized the quartermaster general to procure six anthracite coal grates for the hospital at Fort Monroe, Virginia, and six more for officers' quarters there. In the next few years Franklin stoves began to come into wider use throughout the Army, not for the comfort of the men, but because they consumed less wood than fireplaces and therefore reduced expenses.[2]

For a long time the Army avoided establishing any policy on stoves more formal than simple expediency. Nonetheless, stoves themselves gradually began to account for an increasing share of quartermaster expenditures, and in 1844 Jesup predicted that the problem could not be ignored indefinitely, as the expense of providing fuel and timber for the western posts would increase as deforestation proceeded.[3] Thirteen years later he tried unsuccessfully to establish a general policy on the distribution of stoves, when he requested an appropriation

> . . . of twenty thousand dollars to provide stoves for the quarters of officers and soldiers, not exceeding two to each officer above the rank of captain, and one to each captain and subaltern, and four to each company of soldiers above 40° of north latitude, and two to each company below that latitude . . . . There has never been an appropriation for either stoves or . . . though the former are really necessary in the winter-season in all the northern and northwestern portions of our country, and are often necessary in the western and southern portions of it.[4]

But until the 1870s the distribution of stoves remained unregulated and may or may not have followed Jesup's proposed formula. At a great many of the posts, especially on the frontier, fireplaces continued in use for years to come.

Although economy was the most important determinant of the quality of the soldier's housing, by 1840 some attention to his individual well-being surfaced among the leadership. Perhaps the most important influence was Secretary of War Poinsett,[5] who toured the military establishments of Europe that year and returned with the observation that the American Army was "the best paid, the best fed, the best clothed, and the worst lodged army in Christendom."[6]

Poinsett was not the only American military tourist in Europe that year. The Ordnance Board members visited arsenals and military facilities all over the continent and were especially impressed by a new Prussian army barrack in Berlin that accommodated 1,000 men. "The basement," they reported, "contains cook and mess-rooms; furnaces, each of which heats five rooms above, and offices; the first floor and the second, lodging-rooms, with iron bedsteads; and the attic, company clothing-rooms."[7] The board's report, at the insistence of the secretary of war, was circulated among the War Department hierarchy to provide lessons for the improvement of the American Army.

Poinsett was concerned particularly with the quality of the Army's quarters--not just the buildings that housed the troops but the beds on which they slept. In recommending to the president and the Congress that frontier posts ought to be built of fireproof materials and on a standard, defensible plan, he added, "The quarters for the men ought, likewise, to be built of durable materials, and be permanently furnished with single iron bedsteads, in lieu of the double and treble wooden bunks now in use. This change, for obvious reasons, should be introduced into all the barracks in the United States."[8]

Poinsett thereby launched the Army on its first search for an iron bedstead for its soldiers. But the congressional habit of pinch-penny economy intervened and almost prevented the search from starting. At the official end of the Seminole War in 1842, the legislators reduced the authorized size of the Army from over 12,000 to 8,613 officers and men. They thereafter held down appropriations so sternly that no repairs of barracks or other buildings, except emergency preservation measures, could be ordered during fiscal year 1844.[9]

Throughout the 1840s the troops continued to throw together their own rude housing. Even at the major seacoast fortifications there was inadequate accommodation for the men. Those works were built by the Corps of Engineers, which was also supposed to erect appurtenant facilities but evidently decided that barracks and hospitals should be omitted for two reasons that other departments of the Army regarded as spurious. The engineers believed that such buildings would compromise the military appearance of the fortifications and could also block some of the guns in the event of war.

In 1843 the leaders of the Army fell into a public wrangle over that issue. The commanding general, Winfield Scott, complained of an "extreme want" of barracks and hospitals at the permanent forts and objected to the fact that "cramped and most unwholesome casemates now [were] in general use for both purposes." "[I]t would seem against the interest of the country and the credit of the Government," he averred, "to lodge troops, with their sick . . . in such miserable places." In requesting money to build quarters at the forts and to repair the barracks at inland posts, he echoed the outrage of the surgeon general, who said he could see no good reason why barracks and hospitals could not be built at the seacoast works to remove the men and the sick from the casemates Reviewing the appalling living conditions at places like Fort Morgan, Alabama, and Fort Pickens, Florida, Quartermaster General Jesup apparently felt that the allegations of the other officers were directed at his department. He turned instead on the Corps of Engineers, whom he rebuked for not providing barracks and hospitals at places under their purview.[10]

But the complaints of the Army's leaders came to naught in the face of unrelenting congressional stinginess. Eventually, almost everything was in short supply. The annual budget requests of all departments went only partly answered, and a penurious spirit pervaded the Army. In 1845 an inspector general maintained flatly "that no frontier post established for a temporary purpose or for occupancy not to exceed six or seven years ought to cost more than five hundred dollars," and on that principle he excused living conditions that he regarded as atrocious.[12]

The Army's supply system recieved its last major organizational changes in 1840, when the Clothing Bureau was folded into the Purchasing Department, and in 1842, when the latter was absorbed by the Quartermaster Department. Everything related to clothing, camp and garrison equipage, and other supplies except ordnance and subsistence was finally under the direction of one authority in Washington, although much of the overhead remained in Philadelphia under a quartermaster officer.[12]

The Philadelphia facilities were the chief source of central issue items in any way related to furniture. Their reports during the period reflected the fact that the soldiers still slept in pairs. For instance, in 1838-39, The Clothing Establishment there manufactured 1,693 double bedsacks, as against 252 singles. During the same period the Philadelphia offices procured 2,022 blankets and experimented with a variety of ways of holding down the costs of all items to be supplied to the troops.[13]

In 1841 the Army issued another revision of the general regulations.[14] As related to the interiors of barracks, they remained essentially as before, except that the day appointed for the weekly cleaning was changed back to Saturday.[15] The suggestion that the men be made to bathe became somewhat more terse but also more insistent.[16] The 1841 regulations affecting quarters were repeated without important change (in fact, regulations governing the staff departments were simply continued in force) in the next revision in 1847,[17] when the Army was engaged in the Mexican War.

In 1843 Jesup renewed his request that his department be allowed to provide "plain furniture . . . at the public expense" for officers. He suggested that such a provision would allow them to change locations more quickly when ordered, save them the financial losses caused by hasty sales of furniture before changes of station, and place the Army on an equal standing with the Navy. But he got no further with his case this time than he had before.[18]

Regarding iron bedsteads for enlisted men, it appeared for a while that Jesup might make some progress. Evidently believing that the American army might learn from the European examples that had impressed the secretary of war, in January 1843, at a total cost of $91.58, the Quartermaster Department imported from England 10 iron bedsteads as follows:

1 Iron Bedstead 2 ft. 3 inches wide by 6 feet 6 inches long
1 Ditto Ditto to [illegible] up

1 Solid Iron Stump Bedstead No. 11 ornamented head rail, ball feet,
    6 feet 6 inches long by 2 feet 2 inches wide
5 Similar, each same price
1 Iron Bedstead with foot rail as Sample
1 Ditto Stump to [illegible] up[19]

The following month, bedsteads of the models used in the French Army arrived from Havre, together with one palliasse stuffed with hay, one mattress, quantities of wool and horse hair, four sheets, one coverlet, and one quilt. The bedsteads were described as "1 Iron Bedstead modelled after those of the Military Hospital with Tablettes," and "1 Small Iron Bedstead after those in use at Soldiers Barracks furnished with wood slats." The cost of the entire shipment was $52.92.[20]

These items apparently went to Philadelphia for examination. There may have been other imports as well; in 1844 Assistant Quartermaster General Henry Stanton wrote to Jesup from Philadelphia, enclosing the "statements desired in relation to the Iron Bed Steads recently imported on the public account from Gordeon[?] Paris; and also return you the file of papers connected with the Report of the late Clothing Board. . . ."[21] Unfortunately, the iron bed file closed with that letter, and there is no record of what disposition was made of the imported objects, or what conclusions were drawn from any examination of them.

Nothing for the benefit of the soldiers emerged from the Army's first inquiries into iron bedsteads. The fault lay not alone in the military but also in the fact that appropriations were so severely reduced--and expenditures complicated by endlessly detailed accounting requirements--that the quartermasters did well to erect barracks, let alone fit out their interiors with mass-produced furniture. That the need for better arrangements was real did not seem to impress the Congress. Late in 1844 Secretary of War William Wilkins tried to get the message across: "I cannot omit the opportunity to recommend to Congress to authorize the substitution of the single iron for the double wooden bedstead . . . [which] would add to the comfort, health, and cleanliness of the soldier."[22] He was ignored.

In any event another war broke out in 1846, and the question of new bedsteads had to await its conclusion. Observing previous experience, it could have been expected that the question would even then have remained unanswered, as Congress predictably would shrink the Army and deny its expensive needs. But that was not to be the case, for the Mexican War transformed the United States into a truly continental nation with continental military obligations that had to be served.

At the start of the war the Army comprised 734 officers and 7,885 men. Its strength grew to 30,476 regulars and 73,532 volunteers during the conflict. As expected, Congress cut the force to 10,763 by 1850. But white Americans were flooding into the newly conquered territories, and their demands for protection from increasingly belligerent native peoples could not be denied for long; by 1855 the authorized strength of the Army stood at 17,867.[23]

The vastness of the new conquests and the urgency of their military needs transformed the Army into a continental police force, stationed mostly at small, scattered outposts. In 1850 there were only 2,109 officers and men at 33 stations east of the Mississippi, as against 6,385 at 67 posts west of that river, not counting others at depots, West Point, recruiting rendezvous, and in transit.[24] At least 32 new posts were established in territories acquired from Mexico before the middle of 1849,[25] and construction and repair budgets exploded despite congressional opposition. In fiscal year 1851 the Quartermaster Department spent $451,000 on construction repairs at posts in the new territories--three times the entire appropriation for barracks and quarters in 1844. The burden was enormous, because shifting frontier needs required frequent changes in the locations of posts, which in turn mandated the erection of only the most temporary structures. They seemed to require constant repair.[26]

During the years immediately after the war the Quartermaster Department budget was utterly out of control. The largest problem was transportation, not only because of the distances involved, but because nearly everything had to be shipped into the new territories. During the middle and late 1850s the Division of the Pacific, where costs were extremely high during the gold rush, annually spent twice what Congress had appropriated. Even as early as 1850 the transporation costs of the Army, which had grown 50 percent in size since 1844, had increased by 1,500 percent. Yet shortages of all essentials were everywhere the rule.[27]

Congressional appropriations never kept pace with realities, and the War Department regularly had to seek supplemental appropriations to cover "arrearages." In 1850, Secretary of War C. M. Conrad stoutly defended the requested Quartermaster Department budget of $4,295,000 (five times the 1844 appropriation) against the inevitable congressional reductions and delivered to the legislators somewhat of a lecture on the facts of life. Predicting that disbursements would reach $5 million by 1852, he pointed out that they routinely exceeded appropriations, something he regarded as administratively dangerous, and urged in the strongest terms that for once the money be appropriated before it was spent.[28]

The cost of transportation by 1850 averaged about $2 million per year.[29] To reduce that, the Army made rigorous calculations of what it had to ship, and the Quartermaster Department seemed for a time to view the entire Army as little more than a collection of things that required transport. The department was therefore less than enamored of the expanding mounted force, not simply because it had to provide horses and feed, but because a dragoon carried more equipment that required shipment than did a foot soldier. The total equipment and arms for a mounted soldier weighed 78 pounds, of which two blankets (one for the horse, the other for the man) accounted for exactly nine pounds.[30]

Everything conceivable was attempted to cut transportation costs. On January 8, 1851, the War Department issued orders to institute large-scale farming at all posts, in order to reduce the need to ship food and to turn a profit from sales of produce. The abandonment of Forts Kearney and Laramie was proposed solely on the grounds that farming was not believed possible at either location.[31] But the attempt to revive, on a grander scale, the discredited military agriculture of the 1820s never really got off the ground.

As might be expected, little was left in the budgets for barracks and quarters. In 1853 Jesup requested, in very strong terms, increased appropriations to provide "better accommodations than have been provided for [officers and men] heretofore." He asserted that "suitable standards" had been achieved by the Navy and at Marine Corps barracks and arsenals, but not at very many army posts. Once again, his plea went unanswered.[32]

In 1856 a commission of officers was dispatched to observe the war in the Crimea and to visit military establishments in Prussia, Austria, Russia, and Belgium. The deplorable sanitary conditions in the war zone contrasted dramatically with the high quality of barracks and hospitals in the European military posts, and the whole tour only aggravated the American Army's unhappiness about its own shabby physical plant.[33] General Scott vented that frustration the following year when he asserted that the low quality of the quarters provided for the Army was a principal cause "of desertion, disease, and mortality." The men, he said, lived in casemates in the coastal fortifications and on the frontier "either in tents (winter as well as summer) or such miserable bush and mud huts as they have hastily constructed for the moment." But he acknowledged that the problem was only partly soluble, because the constant movement of the frontier of settlement made it inadvisable to establish permanent quarters for the Army.[34]

The fact that most of the Army's manpower and budgets were scattered around the West served only to worsen living conditions for the men in the East. Scott would not let the subject rest, complaining in 1858, "I must also again beg attention to the miserable state of the barracks or quarters at nearly all our permanent fortifications and posts. Health and efficiency as well as comfort must be sacrificed where strict attention is not given to the lodgings of the men."[35] That same year Congress arbitrarily cut $2 million from an already tight army budget--much to the outrage of the secretary of war. That action all but eliminated any funding for barracks and quarters.[36]

It was in that fiscal climate that the Army tried to house itself. The machinery of reform was in motion but without much monetary fuel. The Surgeon General's Office issued an expanded supply table in 1850,[37] and an even larger one in 1856.[38] In the latter, for the first time iron bedsteads (bedsteads of any kind had not been mentioned in earlier tables) appeared as an item of general issue to all hospitals. They remained on the inventory thereafter.[39]

The army hierarchy did look into the possiblity of general-issue bedsteads during the 1850s. If in the West, where everything had to be shipped in, or at the posts near large cities, bunks and related items were going to have to be purchased rather than fashioned by the troops, then why not turn to iron? As early as 1848 Henry Whiting, the quartermaster officer at New York City, offered the following proposal to the quartermaster general:

> A requisition has been made on me for bunks for one Compy. 1st Arty. and another will shortly be made for two more Com'ys soon expected in this harbor. As I have found by long experience that wooden bunks, however made, are not durable, and that they soon become, even with the best of police, a harbor for vermin, I take this opportunity to recommend a change, feeling confident that it will lead to economy, & that it will contribute greatly to the comfort of the soldier. This change is, to substitute iron bunks for those of wood. I have had inquiries made as to the probable expense of the former. About $50-- is set down as the cost. Once made, they can hardly fail to last many years. Indeed, it would seem that they could not be worn out. As it will be necessary to make some provision for these Comp'ys shortly, I respectfully ask an early reply. Enclosed is a plan of the proposed bunks.[40]

Whiting's pencil-on-brown-paper sketch shows a two-level, four-man iron bunkbed similar to its contemporary wooden counterpart. The corner posts, of cast iron somewhat more than six feet high, were joined together by wrought-iron flat bars, covered with sheet iron, forming the bed sides; the bed bottoms were to be "of Hoop Iron, woven through each other." It was not an elegant creation, but it would have been an improvement over the same thing in wood. Unfortunately, the record of any reply to his letter is lost, and there is no way of confirming whether his model was placed in the barracks around New York in any numbers.

It is known that iron bedsteads came into use, whatever their pattern, in forts around New York during the 1850s. In 1858 the commander of the recruiting depot at Fort Columbus complained that most of his men were sleeping on the floor because all of the iron bedsteads "previously issued" had broken apart. They were made of such light material that they could not bear up in normal barracks use.[41] The junk bunks may have been the remains of Whiting's, making it the first iron bedstead issued to American troops in barracks.

Iron was the wonder material of the mid-19th century. The entire nation, including the Army, seemed to be fascinated with it. That was not only because the depletion of the eastern forests was bringing America's wooden age to an end, but because it seemed that with iron anything could be made, in ways never before possible. It is not surprising, therefore, that the quartermaster general announced in 1850 that iron houses were being shipped to California "to be exposed to a trial of their fitness before others of that material be introduced into the service." They were to be used as barracks and quarters at Tulare Lake if there was no timber there for the troops to build their own cover.[42]

That same year the Army revealed its desired outfit, congressional appropriations permitting, by publishing in detail the annual estimate (budget request) of the Quartermaster Department of the Division of the Pacific for fiscal 1851. The very long list included everything from steamships to castor oil and the following items of furniture and materials related to the interior finish of buildings:

1,000 iron bedsteads, single
75 close stoves, various sizes (absence of brick and lime render these necessary)
50 cooking-stoves, for officers
20 cooking-stoves, for companies
stove-pipe for above
50 common andirons
50 common shovels and tongs
5 dozen office chairs
3,000 pounds white lead, ground in oil
100 pounds lampblack
100 pounds paints; assorted, ground, and in canisters
5 paint-stones
5 mortars and pestles
40 barrels linseed oil
15 barrels linseed oil
15 dozen padlocks, assorted
12 dozen door-locks, assorted
10 dozen iron door-bolts, assorted sizes
50 dozen pairs butt hinges, assorted
300 pairs strap hinges[43]

In view of Congress' desire to hold down expenses, it is unlikely that the Division of the Pacific received all that it wanted that year, and in fact parts of the requisition, including some of the watercraft, were disallowed by the quartermaster general. But at least, the foregoing reflects the general direction of quartermaster aspirations at the time.

The search for an iron bedstead proceeded, but for a time without any apparent system. In 1852 Samuel Whitemarsh of New York corresponded with a quartermaster officer about the improvements he was making in "the bed," including modifications to keep dirt and gravel from accumulating in the posts, and to make them easier to clean out. He added, "We are also getting up the Bed in a light Pattern of Malleable Iron, which will not be too heavy, which when completed we shall be happy to send you a sample." Just exactly what his beds were like is not known; nothing seems to have come from his proposals.[44]

While the Army approached the subject in fits and starts, an event took place that two decades later would affect the enlisted man's sleeping accommodations in an important way. On January 13, 1852, the Patent Office issued a patent to Henry Jenkins for a process of making metal bed parts through a chilled-iron casting. In the late 1860s he would sell his patent rights to a firm called the Composite Iron Works Company, which would bring it to the Army's attention at coincidentally the right moment.[45]

In 1853 the Marine Corps revived the quartermaster general's interest in iron bedsteads by asking if the Army used them, "and if so, how they answer the purpose & whether they are of Cast or wrought iron."[46] Jesup could give no helpful response, because the Army had no general policy or experience to draw upon. But within a little more than a year after hearing from the Marine Corps, the quartermaster general and the adjutant deneral recommended to the secretary of war the general adoption of single iron bedsteads for use by the Army. On October 23, 1854, Secretary Jefferson Davis replied:

> The proposed change from double wooden bunks to single iron bunks, is approved and will be carried into effect by supplying the iron bunks to the recruiting depots and to new permanent posts which may be established, and substituting them from time to time for such wooden bunks as may become unserviceable at existing posts.[47]

Two months later General Order 22 modified paragraph 974 of the regulations of 1841 "to substitute single iron bedsteads for the wooden bunks prescribed by that paragraph, to be furnished by the Quartermaster's Department."[48] This provision was reflected in the new general regulations issued in 1855 and again, somewhat modified in 1856.[49] Although the provision related to barracks and furniture remained essentially as before, the straw allowance was now regulated by the man rather than by pairs of men.[50] The regulations also mentioned the furniture rather than just the materials supplied to build barracks. Along with some other adjustments in matters like fuel rations, they introduced standards for keeping mess areas clean, a revised blanket issue, and furniture provided for offices. The regulations were also somewhat more specific on the provision of bedsacks and cooking pots to troops in garrision, and in 1855 "mess pans" made an appearance--five to every 15 foot or 13 mounted soldiers.[51]

Issuing a regulation that the men would get single iron bedsteads was not the same as making it happen. The secretary's instructions made it clear that the conversion would at most be a gradual one, and the failures of Congress to appropriate funds for that purpose made it all but impossible. Then there was the question of just what the army bedstead would be. Other than that it should be of iron and hold only one man, no one seemed to know. In 1856 the surgeons became impatient and added single iron bedsteads to their supply table, evidently putting them into general distribution at hospitals, but without leaving a record of any standard or design.[52] That relieved hospitals of the uncertainties bedeviling the rest of the Army, which had to observe the secretary's clear implication that the bunks were to be placed in "permanent" posts. The Army had few of those, and at those few not many barracks had been provided. Perhaps the provision of iron bedsteads was not to include the majority of the army after all, since most of the troops were stationed outside the permanent posts at temporary locations in the West.

The adoption of an iron bedstead was retarded further by the Army's habitual indecision when it came to adopting new equipment. Rather than develop its own design or even to shop for a commercial product that would meet the need, the Quartermaster Department waited until a salesman walked through the door with a good product at a good price. Typical, therefore, was this report to the quartermaster general in 1856:

> I have received your instructions to report upon the fitness of a portable camp Bedstead, made by F. T. Foster of this city (Philadephia), for Army purposes. Mr. Foster has shown me

> his Bedstead, which he claims is his invention. This is a mistake, as I have seen the same article before, in use in Mexico, where they are common. It is a good and convenient article for an Officer on campaign, or for travellors on the Western plains; being very portable & weighting only about 21 lbs. Its cost is about $3.75/100. This Bedstead, or portable Cot, is not at all adapted for use of troops in barracks or for general Army purposes.[53]

With no standard imposed from above and apparently no suitable commercial product available--and especially with no appropriations to cover the supply of bedsteads for the whole Army--there was no general issue iron bedstead for many years. Such bedsteads as were supplied at coastal fortifications depended upon what the quartermaster in charge could buy or have manufactured in his area, likely without any consistency from region to region.

In an interesting turn of events, the first iron bedstead accepted by the quartermster general for the army as a whole, as opposed to what local quatermasters may have been procuring, came from an unexpected source--within the Army itself. On June 1, 1858, Capt. William B. Johns[54] of the 3rd Infantry secured patent number 20,435 for an "Improvement in Bedsteads." His invention comprised a stout, three-piece wooden bed with headboard, held together with long bolts and wing nuts, supported on iron trestles at both ends; it appeared well suited for barracks use. Even before receiving his patent, Johns set about selling his invention to the Army. Jesup appointed a board of officers to examine the "Johns Bunk," as it came to be called. They offered "the opinion that it [was] superior to any other known to them and recommend[ed] its adoption both on account of it lightness, cheapness and durability." The commanding officer at Fort Columbus, New York (whose men were sleeping on floors), followed suit and urged the immediate adoption of Johns' bedstead. The deputy quartermaster general in charge at Philadelphia was directed to look into the matter of procuring the item for army use. He struck a bargain with Johns whereby the bedsteads would be manufactured under Johns' supervision by the Architectural Iron Works Company of New York City at a cost initially of $3.70 apiece. For each bunk procured, the Army would pay Johns (through his Washington lawyer) one dollar in royalty, until he had received a total of $7,500, at which point rights to the patent would transfer to the government. The officer in charge felt satisfied with that peculiar arrangement. "The Bunk is simple in its structure," he reported to Jesup, "and will probably answer the purpose, it will if it be properly taken care of by the troops."[55]

Between December 1858 and October 1859, the Army bought 5,191 bunks, all manufactured in New York under Johns' direction; by March 1860 it had paid his lawyer $5,191. The distribution of the bunks is open to some question. Johns maintained in later years that all of them were installed in the fortifications and barracks around New York. In fact, Johns himself, before striking the bargain with the Quartermaster Department, ordered 69 for Fort Columbus and 135 for Fort Wood at $4.00 each.[56] The Philadelphia office also reported distribution of bunks to Fort Monroe, Virginia, as well as more to Forts Columbus and Wood. In January 1859 it reported 480 bunks ready for shipment to Fort Riley, Kansas, and another 85 for Fort Leavenworth, Kansas.[57] And it is apparent from the records that an unspecified additional number of bunks, slight modifications of Johns' pattern (for which, accordingly, he received no royalty), were shipped to California.

At first the Army seemed pleased with the Johns bunk, which appeared destined to become the standard for all barracks. In requesting funds for them in his budget for fiscal 1859, Jesup remarked, "The cost of equipage is also increased by the adoption of the iron bedstead, which is preferred by the troops because it is more easily kept clean than the wooden bunk formerly in use."[58] But it was not to be. Congress would not appropriate the necessary money, and reports came in questioning the wisdom of distributing the Johns bunk at all--it was not strong enough to stand up to barracks use.[59] Shortly before the Civil War the Architectural Iron Works Company supplied the quartermaster general with a design for a new wood-and-iron bunk, apparently also designed by Johns, for hospital use; there was a two-story version of the same pattern for barracks use. Neither attracted any interest.[60]

By 1860 war threatened, and the general adoption of iron bedsteads for the Army was postponed once again. That same year the War Department avoided facing up to another question, that of heating the barracks. In fiscal 1860, besides money for rentals and construction or repairs, the Quartermaster Department spent public funds for only three categories of items for barracks and quarters: $192,261.00 on fuel, $10,116.66 on straw, and $6,453.58 on stoves, listing no specificiations for the stoves.[61]

The Army made one last gesture toward improving its quarters in 1860, when it adopted a volume of comprehensive building plans and materials lists, with a detailed set of regulations, for barracks, hospitals, officers' quarters, storehouses, and other construction. They were prepared under the direction of Lieut. Don Carlos Buell in 1858-1860, and printed for the guidance of the Army in 1861--but never distributed. Ten years later an officer of the Surgeon General's Office could find no record, no one who could explain why they were never disseminated, and very few officers who even knew that they existed.[62]

The 1860 barracks regulations were probably not distributed because of the confusion following the election of Abraham Lincoln and the onset of the Civil War. They set an ideal of standardized, high-quality housing for the Army, but it is doubtful that that ideal was ever attained. It is known that the new regulations were not followed in wartime construction, as all buildings erected during the conflict were "temporary" and followed short-term plans developed at the time. The War Department's heart was in the right place, but it had far to go before it actually gave each soldier a decent place to live and a good bed to sleep in.

The year before the Civil War, the Army's strength stood at about 16,000 officers and men. It was more than ever a frontier police force, for only 929 of its numbers were at posts in the Department of the East. Besides those scattered at depots, West Point, recruiting rendezvous, and in transit, 13,143 men were dispersed widely around the Department of the West, Texas, New Mexico, Utah, Oregon, and California.[63] With a strained budget and a small staff, the Quartermaster Department did is best to provide housing, transport, and basic supplies to the scattered Army. No matter how earnestly it may have wished to give each man his own bed, circumstances did not permit.

The year 1860 was one of transition for the quartermasters as for the nation as a whole. On June 10, the "father" of the Quartermaster Department, Thomas Jesup, died after 42 years as quartermaster general. The following spring his successor, Joseph E. Johnston, went over to the Confederacy.[64] The next four years proved to be as exceptional for the department Jesup created as they were for the nation. They were exceptional as well in the history of the quarters and furniture provided for the enlisted soldiers.

Notes

1. Francis Wyse, quoted in C. Robert Kemble, The Image of the Army Officer in America: Background for Current Views (Westport, Conn.: Greenwood Press, 1973), 60.

2. Risch, Quartermaster Support, 211-12. The Army was feeling pressures of fuel scarcity similar to those affecting the civilian world, especially in the cities, during the first half of the 19th century. Stoves were by far the largest object of the Patent Office's attention before the Mexican War, receiving over 800 patents before 1845 and thousands more rejections. For a good account of the relationship between fuel availability and the shift to stoves, see A. William Hoglund, "Forest Conservation and Stove Inventors, 1789-1850," Forest History 5(Winter 1962):2-8.

3. ARQMG 1844, Sen. Doc. 1, 28 Cong. 2 Sess., 144.

4. Jesup to Secretary of War, Jan. 26, 1857, printed in ARQMG 1876, House Executive Document 1 (H. Ex. Doc. 1), 44 Cong. 2 Sess., pt. 2, p. 269, with the same elisions. Stinginess was the rule in other matters as well. General Order 26, Apr. 23, 1839, directed that every recruit before joining his regiment was to receive a copy of the "Soldier's Book," but the cost was to be deducted from his first month's pay. Orders and Circulars, RG94.

5. It was not the first tour of Europe for Poinsett, whom Weigley, History of the United States Army, 172, calls "altogether the most vigorous and foresighted War Secretary since Calhoun." Born in South Carolina in 1779, educated in Connecticut and England, then in law in America, he had made an extended tour of Europe and western Asia in 1801-08. In 1801 he became a special agent of the United States in Argentina and Chile, where he was involved in supporting the independence movements. In 1815 he returned home to enter politics as a Democrat, serving in the South Carolina legislature and in Congress.

The first U.S. minister to Mexico, 1825-30, he was recalled at the request of the Mexican government because he meddled in local politics. He served as secretary of war in 1837-41 with great distinction and remained a staunch Unionist throughout his life. He is also well-known for introducing the Poinsettia plant into this country. He died in 1851. CDAB, 794.

6. This became a great favorite in the Army. As late as 1867 the Army and Navy Journal quoted it in a statement about the deplorable state of the Army's housing. "Barracks and Quarters," Army and Navy Journal (Mar. 23, 1867):492.

7. AROrdnance Department 1840, Sen. Doc. 1, 26 Cong. 2 Sess., 66.

8. ARSecWar 1840, Sen. Doc. 1, 26 Cong. 2 Sess., 19-20.

9. Weigley, History of the United States Army, 163; Risch, Quartermaster Support, 237-38.

10. Weigley, History of the United States Army, 168; AR Major General Commanding the Army 1843, ARSurGen 1843, and ARQMG 1843, all in Sen. Doc. 1, 28 Cong., 1 Sess. The interdepartmental feud over the quarters at the coastal fortifications continued for many years.

11. George Croghan, in Prucha, Army Life, 53. That accorded with the opinon of Jesup, who in 1839 said, "If it be contemplated to establish posts on the route surveyed between Forts Leavenworth and Snelling, I would recommend that the Ordinary log cabins and block houses of the frontier alone be constructed, and with as little expense as practicable." ARQMG 1839, Sen. Doc. 1, 26 Cong. 1 Sess., 114. Note the use of the term "log cabin" before 1840.

12. ARQMG 1842, Sen. Doc. 1, 27 Cong. 3 Sess., 230; Ingersoll, History of the War Department, 186.

13. ARComGenPur 1838, Sen. Doc. 1, 25 Cong. 2 Sess., 178; 1839, Sen. Doc. 1, 26 Cong. 1 Sess., 269-88, 303; 1840, Sen. Doc. 1, 26 Cong. 2 Sess., 221, 223; 1841, Sen. Doc. 1, 27 Cong. 2 Sess., 237-38. The costs of blankets in 1840, 1841, and 1842 were $3.22, $2.74, and $2.48; of double bedsacks, $1.44-1/2, $1.35, and $.33-7/8; of single bedsacks, the same as doubles. It can be seen that a transition to single beds would almost double the Army's bedsack expenditures. (ARComGenPur usually offers prices for both the last and the next year.)

14. U.S. War Department, General Regulations for the Army of the United States, 1841 (Washington: By authority of the War Department, 1841), cited hereafter as 1841 Regulations.

15. Ibid., 56.

16. Ibid., 15.

17. U. S. War Department, General Regulations for the Army of the United States, 1847 (Washington: By authority of the War Department, 1847), cited hereafter as 1847 Regulations.

18. ARQMG 1843, 75.

19. "Statement of Cost and Charges of ten Iron Bedsteads imported from England . . .," QMConFile--Bed(iron), RG92.

20. "Statement of Cost & Charges of two Iron Bedsteads and furniture . . .," QMConFile--Bed(iron), RG92. The hospital bed cost $17.58-5/12, the barracks bed $6.25-19/30, the bedding ("furniture") $29.07-19/20.

21. Stanton to Jesup, Aug. 26, 1844, QMConFile--Bed(iron). Neither the report nor the statement appears with this badly mangled letter.

22. ARSecWar 1844, Sen. Doc. 1, 28 Cong. 2 Sess., 115.

23. Weigley, *History of the United States Army*, 182-83, 190; Risch, *Quartermaster Support*, 301. See appendix N for the complicated formulas used for determining actual strength in the 1850s.

24. Risch, *Quartermaster Support*, 301.

25. Oliver Lyman Spaulding, *The United States Army in War and Peace* (New York: Putnam, 1937), 229-30.

26. Risch, *Quartermaster Support*, 304. This may have been aggravated by the general shift to balloon-frame construction, which with green lumber is less durable than older framing systems.

27. Ibid., 304, 306, 309-17.

28. ARSecWar 1850, Sen. Ex. Doc. 1, 31 Cong. 2 Sess., pt. 2, pp. 8-9. Of the over $4 million requested, all but $530,247 for the seven old departments of the Army was destined for the four new departments of Oregon, California, New Mexico, and Texas. ARSecWar 1850, 109.

29. Risch, *Quartermaster Support*, 317.

30. ARQMG 1851, Sen. Ex. Doc. 1, 32 Cong. 1 Sess., 253.

31. ARSecWar 1851, Sen. Ex. Doc. 1, 32 Cong. 1 Sess., 108-18, 161, 164-65. Unlike the military farming of the 1820s, this time it was to be conducted on a commercial scale, with produce being sold at a profit. The idea was to attract a civilian population that could eventually supply the Army's needs locally.

32. ARQMG 1853, Sen. Ex. Doc. 1, 33 Cong. 1 Sess., vol. 2, p. 132.

33. ARSecWar 1856, H. Ex. Doc. 1, 34 Cong. 3 Sess., 16.

34. ARCommanding General 1857, Sen. Ex. Doc. 1, 35 Cong. 1 Sess., 49.

35. ARCommanding General 1858, Sen. Ex. Doc. 1, 35 Cong. 2 Sess., pt. 2, p. 762.

36. ARSecWar 1859, Sen. Ex. Doc. 2, 36 Cong. 1 Sess., pt. 1, pp. 8-9.

37. U. S. War Department, *Regulations for the Medical Department of the Army [1850]* (Washington: Surgeon General's Office, 1850), 30-33, cited hereafter as Medical Regulations 1850.

38. U. S. War Department, *Regulations for the Medical Department of the Army [1856]* (Washington: A. O. P. Nicholson, 1856), cited hereafter as Medical Regulations 1856.

39. U. S. War Department, *Regulations for the Army of the United States, 1857* (New York: Harper & Brothers, 1857), 249-52, cited hereafter as 1857 Regulations; *Regulations for the Medical Department of the Army [1860]* (Washington: George W. Bowman, 1860), 17-26, cited hereafter as Medical Regulations 1860; *Regulations for the Medical Department of the Army [1861]* (Washington: Government Printing Office, 1861), 21-31, cited hereafter as Medical Regulations 1861.

40. Henry Whiting to Jesup, Oct. 23, 1848, QMConFile--Bunks, RG92. See appendix D for the drawing.

41. Capt. D. L. Floyd-Jones to Maj. A. Cady, Aug. 23, 1858, QMConFile--Bunks, RG92.

42. ARQMG 1850, Sen. Ex. Doc. 1, 31 Cong. 2 Sess., pt. 2, p. 267. The tests must not have been successful, for the subject was never mentioned again.

43. Ibid., 268-74.

44. Samuel Whitemarsh to Maj. G. H. Crossman, Mar. 11, 1851, QMConFile--Bed(iron), RG92. "Malleable" iron is wrought iron.

45. Ira Hutchinson (President, Composite Iron Works Co.) to Montgomery Meigs, Aug. 17, 1871, QMConFile--Bunks, RG92. Jenkins' patent was extended Jan. 13, 1866, after which he sold the rights to Composite.

46. Maj. A. A. Nicholson, USMC, to Jesup, Sept. 9, 1853, QMConFile--Bed(iron), RG92.

47. Adjt. Gen. S. Cooper to Jesup, Nov. 27, 1854, QMConFile--Bed(iron), RG92.

48. General Order 22, Dec. 27, 1854, Orders and Circulars, RG94. Paragraph 974 directed that the Quartermaster Department furnish materials with which the men could make bunks, benches, and tables for barracks and hospitals.

49. U. S. War Department, Regulations for the Army of the United States and for the Quartermaster's Department [1855] (Washington: A. O. P. Nicholson, 1855), cited hereafter as 1855 Regulations, and 1857 Regulations.

50. 1855 Regulations, 11; 1857 Regulations, 130.

51. 1855 Regulations, 15.

52. Medical Regulations 1856, 19-24.

53. Maj. G. H. Crossman to Jesup, Jan. 10, 1856, QMConFile--Bed(iron), RG92.

54. William B. Johns, a native of Washington, D. C., graduated from West Point in 1840 and was appointed a brevet 2nd lieutenant in the 8th

Infantry in July, then 2nd lieutenant in the 3rd Infantry in November 1840; he was promoted to 1st lieutenant in 1845, and to captain at the end of 1847, meanwhile having earned a brevet promotion at the Battle of Cerro Gordo. Heitman lists him as having been "dropped" from the army Apr. 11, 1861. He died in 1894. Heitman, Historical Register, 1: 574.

55. "Report of a Board of Officers . . . March 31, 1858; Col. C. W. Thomas to Jesup, Nov. 1, 1858; Capt. D. L. Floyd-Jones to Maj. A. Cady, Aug. 23, 1858; all in QMConFile--Bunks, RG92. This file holds a large volume of material, including drawings, related to the Johns bunk. For additional information, see the endorsements and letters and documents accompanying Johns to M. C. Storrs, May 25, 1875. Johns got into a long dispute with the Quartermaster Department in the 1870s and 1880s over two points. First, he believed that the Army was required by its agreement with him to pay him the full $7,500 even though it had bought fewer than 7,500 bunks; the Army disagreed. Second, he maintained that the very idea of an iron-trestle, wood-bottom bunk was his and that those the Army bought in the 1870s infringed on his patent. He lost that case as well. It was in countering his arguments that the Army compiled the information on the distribution of the Johns bunks and their apparent fragility. See also appendix E on this and Johns' other bunk. He apparently kept designing bedsteads after the Civil War, but there are no illustrations of them in the army records. He had made himself decidedly unwelcome in the Quartermaster General's Office by the mid-1870s.

56. In addition to the information in the previous note, this is reported in Johns to Col. S. Cooper, May 30, 1858, and in Johns to Meigs, received Nov. 13, 1877, QMConFile--Bunks, RG92.

57. C. W. Thomas to Jesup, Jan. 11, 1859, and W. D. Wallen to General Dent, Jan. 11, 1868 (which lists the price of those sent to Wood and Columbus as $3.70 each, those to Monroe $3.45), QMConFile--Bunks, RG92.

58. ARQMG 1858, Sen. Ex. Doc. 1, 35 Cong. 2 Sess., pt. 2, p. 797.

59. See footnote 55, above. The weakness inherent in the design should have been apparent to graduates of West Point, but obviously it was not. The bedstead was prone to twisting and bolt breakage when under stress. Evidently, all those in use around New York had been junked or sold for scrap by the mid-1860s, and during the 1870s officers recalled that the modified Johns bunks shipped to California before the Civil War had failed quickly. Johns repeatedly disassociated himself from the modified bunks and defended the quality of his own in several letters thorugh the 1870s, all in QMConFile--Bunks, RG92. The modifications were made by Capt. D. H. Rucker, a future quartermaster general. They were technical changes relating to the way the parts were joined together. Rucker thought they were strengthening improvements; Johns claimed they weakened the bunks.

60. See appendix E for a drawing. I found no evidence that this bunk went into production.

61. ARQMG 1860, Sen. Ex. Doc. 1, 36 Cong. 2 Sess., 234.

62. U. S. War Department, Regulations Concerning Barracks and Quarters for the Army of the United States, 1860 (Washington: George W. Bowman, 1861), cited hereafter as Barracks Regulations 1860. The medical officer was John S. Billings, whose 1870 report on barracks and hospitals is discussed below. Pertinent drawings and technical data are in appendixes B, C, and M.

63. Risch, Quartermaster Support, 301.

64. Ibid., 332-33.

7

A SAMPLE WOULD, ERE THIS, HAVE BEEN CARRIED TO BOSTON

(1861-1865)

When the Civil War started in 1861, 183 of the Regular Army's 198 companies were dispersed at 79 posts on the frontier.[1] To serve its supply and transportation needs, the Army had an equally dispersed Quartermaster Department of 13 clerks, 37 officers (a quarter of whom went over to the Confederacy), and seven storekeepers--a force that grew to only 184 clerks, 64 officers, and 29 women copyists during the conflict. The organization chiefly served the armies in the field and throughout the war was hampered by political interference, beset by droves of begging would-be contractors, and overloaded with the huge demands of a continental war. But against those challenges, on June 12, 1861, the department came under the leadership of the redoubtable Montgomery C. Meigs, demonstrably the right man for the occasion.[2]

The Army also began the war with a new set of general regulations.[3] Although they reflected some adjustment of details like the ever-changing fuel ration, as regards the contents of barracks they remained essentially as before. They continued to reflect the multiple meanings of the word "furniture": As applied to "mess furniture," it meant plates, cups, spoons, and so on, but "the furniture for each office will be two common desks or tables, six common chairs, one pair common andirons, and shovel and tongs."[4]

The new regulations also modified the ration of candles (an item of subsistence). The formula now was one pound of sperm candles, or one and one-quarter pounds of adamantine candles, or one and one-half pounds of tallow candles to each 100 rations. In additon, "an issue (extra) of ten pounds of sperm candles, or twelve pounds of adamantine candles, or fifteen pounds of tallow candles per month, may be made to the principal guard of each camp or garrison, on the order of the commanding officer . . . ."[5] The regulations also began that year to devote more specific attention to the appearance of such general issue items as blankets, which were to be "woolen, gray, with letters U. S. in black, four inches long, in the centre; to be seven feet long, and five and a half feet wide, and to weigh five pounds."[6] That was not especially new, but the fact that specifications were becoming subjects of regulation was. That development was to be significant in supply procedures during the war, and it boded well for the future, after the war. A new set of general regulations emerged in basically the same form (apposite to furniture in barracks) in 1863[7]--a volume that for complex reasons remained in force, with only ad hoc revisions, until 1881.

But the demands of wartime procurement and increasing bureaucratic centralism were already producing greater attention at high levels to the details of barracks, their contents, and items of supply. At first, the Quartermaster Department met the opening demands of the war with sample plans and general guidance for things like barracks construction or supply purchases. By 1864 the Quartermaster General's Office was issuing a flurry of standard plans for buildings and contents and precise specifications for bedsacks, blankets, and other supplies. It was all supposed to emerge as a comprehensive quartermaster's manual or handbook, but unfortunately that was never published as a whole.[8]

The manual was intended principally to meet the large wartime need, but it also codified continuing procurement requirements. It came from a greatly reorganized Quartermaster Department, which in 1864 was arrayed by act of Congress into nine divisions, the Sixth Division being "barracks and hospitals."[9] But before the refined organization could come fully into play, the war ended, and the quartermaster general issued the following order on April 29, 1865: "Construction and extension of all barracks, hospitals and other buildings will cease, unless authorized upon special report, which in all cases of necessity should be made immediately by telegraph."[10]

The regulations and drafts of manuals had only a hypothetical relation to realities during the Civil War, because the immediate need was as "temporary" as it was great. Virtually the entire expanded Army, and the vastly greater force of volunteers, was in the field continuously for four years, so that the provisions of the regulations related to barracks had no bearing on the men's surroundings. Furthermore, the regulations themselves had built-in exceptions that permitted sacrificing standards to expediency. For instance, commanding officers had the authority to reduce the amount of living space supposedly to be given each man if the numbers of officers and men at a post made it necessary to do so.[11]

And although the regulations required that men be issued bedsacks when in garrison, the Army never lost an opportunity to reduce expenses. At the start of the war a quartermaster officer, pointing out the substantial costs of shipping straw for soldier's bedding to Forts Monroe, Taylor, Jefferson, and Pickens, suggested "that those posts be furnished with mattresses filled with corn husk or other cheap material," in the belief that such mattresses could last three or four years and cost about two dollars. Actually, the effect might have been an improvement for the men, but the proposal was buried under the administrative pressures of the war.[12]

The Army's supply system nearly collapsed during the first year of the Civil War when hordes of volunteers flocked to the colors, requiring clothes, blankets, housing, and other necessities. Since most of the volunteer units were raised by the states, there was some confusion at first about division of supply responsibilities between the states and the national government. The Quartermaster Department quickly grew into a comprehensive supervisor of all construction and supply.

The greatest immediate requirements were for clothing and blankets, especially the latter. Before the war, like other items of equipage, blankets had been bought on contract at Philadelphia. But there were not many on hand in 1861, so the quartermasters scoured the domestic and foreign markets for almost anything that would serve the purpose. Any color or weight might be purchased so long as the blankets were made of wool; jute, cotton, and grass were specifically forbidden. Supplies were insufficient, especially when state and federal quartermasters competed against one another in the same markets; too frequently the worst happened.[13]

The "worst" had the interesting side-effect of bringing into the general vocabulary a word that had formerly been restricted to the jargon of the textile and rag trades--"shoddy."[14] Shoddy technically is remanufactured cloth, particularly wool, made by separating the fibers of used yarn or cloth, then pounding them into new cloth goods in a sodden process akin to felting or, more nearly, to the manufacture of paper from wood pulp. Although is has its uses, shoddy cannot be turned into blankets suitable for military employment. But sizable quantities of shoddy blankets and even clothing were foisted off on harried quartermasters, especially during the first year of the war. Attributing much of that to profiteering, a war correspondent described the material as "a villainous compound, the refuse stuff and sweepings of the shop, pounded, rolled, glued, and smoothed to the external form and gloss of cloth, but no more like the genuine article than the shadow is to the substance." Soldiers issued blankets and clothing of shoddy, he said, found them on the first march or during the first storm "scattering to the winds in rags, or dissolving into their primitive elements of dust under the pelting rain."[15]

The distribution of shoddy blankets--not to be confused with suitable but nonstandard blankets--was probably the most scandalous supply error of the Civil War, although its incidence was greatly reduced after 1861. Regarding waterproof blankets, the Quartermaster Department could never establish a policy. At first the department was not interested, but as some states issued India-rubber blankets, the secretary of war directed that they be brought into general issue. In response, the quartermaster general ordered the purchase of waterproof blankets of several kinds of sealed fabric but specified that all have a straight slit and flaps so they could be used as ponchos, and grommet holes at 14-inch intervals around the edge so they could be joined together as shelters. India-rubber and gutta percha blankets were both used during the war, and reports from the field on their performance were in conflict. By the end of the war the department still had no single standard for waterproof blankets.[16]

The thousands of volunteers also required housing. At first, those converging on Washington were put up in public buildings and in tent camps--so far as the supply of tents permitted--in the suburbs. Almost immediately the policy was established that no permanent structures or fortifications (the latter the responsibility of the Corps of Engineers) would be built for the duration of the conflict. By 1862 Meigs could report that after some hesitation in getting started, scores of temporary barracks and stables had been built in all the loyal states, but to the end of the war he maintained that no permanent buildings were erected.[17]

A common pattern was established quickly. The typical barracks in a training camp was a long, one-story, gabled wood building, intended to house a company of 100 men. Properly speaking, the barracks had no furniture. The men slept in bunks parallel to and built onto the long walls, in tiers of two or (more commonly) three high. The bunks averaged somewhat larger than four by six feet, were separated by partitions, and could be likened to storage bins or sleeping berths in a Pullman car. The men slept two to a bunk, and were afforded no luxury because they occupied them only during ther period of training, after which they moved to the field. Mess facilities were in separate buildings in the training camps, their signal features being long benches and tables often built as single units on the dirt floors.[18]

The construction of the training camps followed the age-old army practice: The first men at a camp built their barracks with tools and materials supplied by the quartermasters. Civilian construction contractors were employed here and there only in later years.[19]

On April 27, 1864 the Quartermaster Department issued new standard plans for barracks, hospitals, and all manner of other buildings.[20] They were not so rudimentary as the earlier designs and reflected a growing concern for the health and comfort of the men. Barracks were now to be two stories in height, and afforded better ventilation in summer and heating (with stoves) in the winter. The ground floor provided space for officers' quarters, kitchens, and store rooms. The upper floors housed dormitories, with three-tier bunks down each side wall. But now the bunks projected perpendicularly from the walls to which they were attached, the upper and lower tiers each holding a shelf projecting into the aisle in the middle of the dormitory.

As in all previous wars, the large American army of the Civil War was not in garrison, but continuously in the field. Following tradition, the men lived in tents in the summer, then moved to wooded areas where they built their own huts for the winter, almost as in the Continental army. The chief difference during the Civil War was that the stockaded log huts were now commonly roofed with canvas tenting.[21] The wartime army remained a temporary necessity, and the government was not about to arrange for its permanent maintenance.

Furthermore, tenting was hard to come by, especially in the early days of the war. To deal with that shortage, and reflecting American tradition as well, Meigs drew a lesson from abroad:

> The French soldier uses only the shelter tent. Whenever encamped for any length of time, he is required to construct huts of small stakes, wattled with brush or straw, and thatched. The walls, for winter use, are plastered with clay mortar.
>
> Such an encampment can be constructed by the troops in eight days, and will last, with occasional repairs, for eight years. The attempt is being made to introduce this practice among our soldiers, who, from their skill in the use of the axe, and the abundance of suitable timber, can construct huts with great facility.
>
> Such camps are drier, better ventilated, and more healthy than tents during inclement weather.[22]

Whether Meigs was unaware that the customary form of housing was as traditional in the American army as in the French, it is difficult to say. In any event, in the absence of any other policy, and reacting to necessity, the American army of the Civil War did house itself that way, with the single exception of tenting routinely being substituted for thatching in hut roofs.

Supply during the Civil War was throughout an exercise in expediency and continual adjustment to changing conditions. But the scale of mobilization, and the consequently expanded requirements of army supply, forced the Quartermaster Department in the direction of more systematic regulation and careful specification of what would be supplied to the troops. That trend would continue into "peacetime" after the war, when a greatly reduced army would once again scatter over the continent in repeated wars with the Indians.

From a total strength of over one million men (mostly volunteers) in May 1865, the army stood at less than 200,000 by the end of that year; that force was cut in half by the end of 1866. In July 1866 Congress reorganized the regiments, establishing companies varying in size from 50 to 100 men each, and limited the authorized strength of the military force to 54,641. It had increased only to 56,815 by 1867.[23]

Although the Quartermaster Department, itself reduced in size, was heavily committed in selling off temporary camps, returning Confederate prisoners to their homes, and engaging in all of the activities that demobilization required, its chief missions of transporting, supplying, and housing the army continued. The peacetime army was now larger than any the department had previously served and was even more widely scattered, as it now occupied the South as well as the West. When that force almost literally burst over the West after the Civil War, the question of housing for the soldiers became rapidly critical. And an important part of that question--that of a bed for the soldier to sleep in--could not remain unanswered much longer.

It was not that it had been dodged altogether. Shortly after the end of the war, the subject of iron bedsteads was addressed, if briefly. The Johns bunks came under inquiry, but the Quartermaster Department did not even know how many it had already purchased. Given that bunk's undependable performance, and the absence of appropriations to buy more, the subject was laid to rest for a while.[24]

There was no denying that the American soldier was still the worst housed in the world, at least in comparision with his brother in Europe. As if to underscore that point, in 1863 the Army and Navy Journal printed a letter from a British soldier stationed in England, obviously aware of the impression it would make when read in the dark hovels that housed American officers and men:

> Well, each man of us here has a bed to himself, with an arm-rack behind it, and two or three pegs in the walls to hang belts, &c., upon. The bedstead is of iron, about two and a half feet wide, and hinged in the centre, so that it can be turned back in the daytime and form a seat. To each cot there is a mattress, a pillow (both stuffed with straw, and ungrateful to the bones at first, but we soon get used to that), two blankets, two sheets, and a rug. The sheets are changed every month, the blankets every three or four months.
>
> Shelves run round the room, which is also furnished with a cupboard, two tables, four forms, a plate and a basin [soup bowl] for every man, a large long-handled scrubbing-brush, a broom, small hand-scrubber, a tin-pail, a wooden pail, a wooden box with handles to contain coals, with poker, shovel, &c. The tables have moveable tops fitting upon iron stands; the cupboard doors are of iron-wire, like those of a meat-safe. The basins are made to serve the purpose of tea-cups also; knife, fork, and spoon, as I have said, are provided in the kit. Of course, I do not know that these details are the same in all barrack-rooms; but . . . I should expect to find few differences elsewhere.[25]

But there were differences elsewhere, in America, as no less a soldier than Gen. William T. Sherman knew. About the quarters of American soldiers just after the Civil War, he raged, "Surely, had the southern planters put their negroes in such hovels, a sample would, ere this, have been carried to Boston and exhibited as illustrative of the cruelty and inhumanity of the man-masters."[26]

Notes

1. Weigley, *History of the United States Army*, 199.

2. Ibid., 217; Risch, *Quartermaster Support*, 333-87. Risch offers an excellent summary of the exceedingly complex story of Quartermaster Department operations during the war. Of Meigs' performance during the Civil War, Secretary of State William H. Seward said, "Without him, the national cause must have been lost or deeply imperiled." Meigs graduated fifth in his class at West Point in 1836, served briefly in the artillery, then was called into the Corps of Engineers. In the following years he worked successively on the construction of Fort Mifflin, Pennsylvania; with Robert E. Lee on navigation improvements on the Mississippi River; on the construction of Fort Delaware and the Delaware breakwater; as a staff officer with the Board of Engineers for Atlantic Coast Defenses; as superintendent of construction at Fort Wayne, Detroit; as assistant chief of engineers in Washington; and in charge of the construction of Fort Montgomery, New York. In 1853 he returned to Washington, where he took over a number of public works, including the Washington aqueduct and the wings and domes of the Capitol. In the latter project, he discarded the previous work and designed a wholly new dome frame of iron, helping to establish a style for a generation of courthouses and statehouses. At first the target of some political finagling, Meigs was appointed quartermaster general with the rank of brigadier general and served in the office until his retirement February 6, 1882. Because of his technical orientation, Meigs was the logical person to adapt army supply procurement procedures to the burgeoning industrial economy. He died January 2, 1892. Weigley, *History of the United States Army*, 164-65; *CDAB*, 661; Heitman, *Historical Register*, 1: 702. See also Russell F. Weigley, *Quartermaster General of the Union Army: A Biography of M. C. Meigs* (New York: Columbia University Press, 1959), which emphasizes the Civil War.

3. U. S. War Department, *Revised Regulations for the Army of the United States, 1861* (Philadelphia: J. G. L. Brown, 1861) cited hereafter as 1861 Regulations.

4. Ibid., nos. 122 and 1088.

5. Ibid., nos. 1191 and 1202. An adamantine candle was a hard, white candle much like those common today. The other, older types were soft, faster burning and off-white to yellowish gray in color.

6. Ibid., no. 1571.

7. U. S. War Department, Regulations for the Army of the United States 1863 (Washington: Government Printing Office, 1863), cited hereafter as 1863 Regulations.

8. Risch, Quartermaster Support, 441, mentions the distribution of standard plans. The projected manual is frequently identified as an "unpublished Quartermaster manual," or parts of it as "unpublished specifications of the Civil War period" in modern research reports. See for instance Kummerow and Brown, Enlisted Barracks at Fort Snelling, and Gordon Chappell, "Barracks Furnishings of the United States Army: The Transitional Years, 1860-1890" (draft MS, 1976). But actually, some parts of the manual, such as building plans, were disseminated widely and presumably followed by Quartermaster Department officers around the country. There is also little reason to doubt that specifications for things like blankets and bedsacks were followed to the extent possible and that they are a reliable source of information for at least two decades, the 1850s and 1860s--with the notable exception of widespread deviations for purchases during the Civil War. Pertinent specifications and drawings from the unpublished manual appear in appendixes B, I, J, and K. The elements of the 1864 manual are scattered hopelessly (and, unfortunately, incompletely) throughout the QMConFile, RG92, especially at QMConFile--Barracks, Plans for, RG92. Donald Kloster of the Smithsonian Institution has worked for some years to assemble the pieces of the manual and informs me that the reassembled manual (less some parts missing perhaps forever) will be published in the next year or two.

9. Weigley, History of the United States Army, 218-19. The legislation took effect July 4, 1864.

10. General Orders of the Quartermaster Department, no. 24, Apr. 29, 1865, para. VII, in ROQMG, General Orders, Inspection Branch, January 3, 1865 to Mar. 3, 1869, RG92, NA.

11. 1861 Regulations, no. 1071.

12. D. D. Tompkins to Maj. E. S. Sibley, May 12, 1861, QMConFile--Mattresses, 1861, RG92.

13. Risch, Quartermaster Support, 357.

14. In the transferred (from the original technical textile meaning) sense of a cheap or worthless substance masquerading as something of superior quality, the OED's earliest recorded written use of "shoddy" is in an American source dated 1862. The word eventually took its new meaning back to England, but it has always had much broader and more general use in America. As a technical term in the textile industry, "shoddy was used for several decades before the Civil War on both sides of the Atlantic, and it is still current.

15. Robert Tomes, "The Fortunes of War," Harper's New Monthly Magazine 29(June 1864):227-28.

16. Risch, Quartermaster Support, 359.

17. Ibid., 440; ARQMG 1862, H. Ex. Doc. 1, 37 Cong. 3 Sess., 74. The refrain is repeated in subsequent annual reports.

18. See the plans and as-built drawings of the New Jersey Barracks in appendix B, from QMConFile--Barracks, Plans for, RG92. These reflect the prevailing practice, although in the first year or two there may have been minor variations around the country. Note as well that this pattern supports the conclusion, discussed below, that the general width of bunks increased before the Civil War. The early barracks seem to have come in two models--50 feet long with bunks in three tiers, and 100 feet long with bunks in two tiers.

19. Risch, *Quartermaster Support*, 441.

20. QMConFile--Barracks, Plans for, RG92. See appendix B for copies of pertinent drawings. They are probably from the "unpublished manual."

21. Risch, *Quartermaster Support*, 441-42.

22. ARQMG 1862, 73-74.

23. Heitman, *Historical Register*, 2:602-05, 626; Weigley, *History of the United States Army*, 262.

24. Col. William W. McKim to J. Hackett, Esq. (Johns' lawyer), Oct. 25, 1865, QMConFile--Bunks, RG92.

25. "Life in a Barrack," *Army and Navy Journal*, 1(Sept. 19, 1863):54. A "form" is a wooden bench, or stool.

26. Quoted in Risch, *Quartermaster Support*, 484.

8

THESE RELICS OF BARBARISM

(1866-1880)

At the end of the Civil War, the administrative machinery was in place to provide better accommodations for the men of the Army. And certainly the desire to do so was also present. Quartermaster General Meigs believed that true economy lay in making the soldier comfortable, in order to improve his morale, health, and efficiency and prevent desertion (the Army's greatest headache in the 19th century). He promised General Sherman in 1866 that he would endeavor to offer better barrack accommodations than in previous years, voicing his intention to make dormitories, reading rooms, and mess rooms "more attractive than the sutler's shop and the groggery."[1]

But where there was a will there was not necessarily a way. The Army's own procedures sometimes forestalled improvements in its living conditions. For instance, in 1866 Congress authorized the construction of schools and reading rooms at military posts. If no room was available for the purpose, the Quartermaster Department was authorized to erect a building, if the secretary of war approved. But the War Department interpreted the provision as not applying to temporary posts, a category that included all military posts in the West. Because of that interpretation, aggravated by low appropriations, no progress was made in school construction for over a dozen years.[2]

During the postwar period, the Army continued to shelter itself much as it had for almost a century. Congress appropriated funds annually for "construction of temporary huts and stables" and for repairs at established posts. The official position still held that most army posts were temporary, and therefore should be built at the least expense by the men themselves, using materials available locally. Special permission from the secretary of war was required to authorize purchase of materials at western posts and also for permanent construction or any alterations of permanent buildings. So most posts were erected by the men, usually under the direction of inexperienced officers (there were not enough Quartermaster Department specialists to go around), with the inevitable expensive mistakes and poor living conditions. For the men, the only compensation was the promise, after 1866, of extra-duty pay for work beyond ten days for the Quartermaster Department (or other staff departments). The rates of pay--not raised until 1884--were 36 cents per day for mechanics and 20 cents for laborers. But the widespread employment of successive nine-day extra-duty assignments and other devious procedures often denied the men the extra pay.[3]

John E. Cox, a veteran of service on the northern Great Plains in the 1870s, provided in his memoirs a good account of the age-old task of throwing up winter quarters--which is what most of the posts amounted to--as units of the 1st Infantry did in late 1876. Logs were felled and bucked to proper length in a nearby cottonwood stand, then dragged to the construction site with oxen and wagons. Work parties for notching, raising, door and window cutting, roofing, and chinking were detailed out. With an old mill borrowed from an Indian agency, sawyers cut enough rough lumber to make doors and bunks, but, he noted, "Not many floors were laid." Cox's greatest single objection to the quarters was the general absence of light. But there could not have been any shortage of ventilation, for as the logs shrank and the chinking failed during the middle of the winter, the soldiers had to dig up the dirt floors and re-chink the walls from the inside.[4] Regarding dirt floors, another man wrote home to his mother that same year, "It is a little unpleasant at first to be smothered with dust every time you walk across the room or whenever the door is opened. . . ."[5]

The men complained, and so did their officers. In 1867 the Army and Navy Journal, not ordinarily given to uttering strong pronouncements, spoke out bitterly about the living conditions of the men. Resurrecting Secretary of War Poinsett's observation in 1840 that the United States Army was "the worst lodged army in Christendom," the Journal's editiors averred that conditions were even worse than they had been in 1840. Although they acknowledged that the frequent movement of posts on the fast-shifting frontier imposed difficulties, they saw no reason why better quarters could not be provided.[6]

The fundamental difficulty facing the Quartermaster Department remained its appropriations--both because of the low levels and because of the unbelievably complex procedures required to get them, obtain authorization to build anything, and keep accounts (nearly everything was a separate line item requiring a separate accounting system; often as many as 50 accounts were kept simultaneously for Quartermaster Department operations). Annual appropriations for barracks and quarters never reached $750,000 before the 1880s, and usually were much less. In fiscal 1868, for instance, the department received authority to spend $470,170 to erect buildings of all types and $79,000 for repairs on the 3,356 buildings occupied by the Army. The major program that year was the construction of eight posts in Texas, at a cost of $189,637.60. But the Quartermaster Department was not allowed to send officers to direct the work. As a result, the money ran out before the projects were completed, and at every one of the posts technical errors were committed that imposed unnecessary maintenance costs almost immediately. Meigs, reviewing that mismanaged program, asserted that if he had been permitted to send an experienced construction supervisor to each post, the work would have been completed, at less cost, and at a high standard.[7]

The next year Meigs counted 5,137 buildings of all types at 255 posts scattered around the country. "Many of them," he remarked, "probably most of them, are of very rude construction . . . ," and that year he was empowered to build 104 more. But the primitive construction of most of the buildings meant that they needed almost constant repair.[8] In 1871 Secretary of War William Belknap offered the following plea to Congress: "The appropriation for barracks and quarters has not been sufficient to shelter the Army in a manner essential to its comfort and health, and hence it is earnestly desired that the appropriation asked for that purpose may not be reduced."[9]

His prayer went unanswered, but the following year Congress did make one reform. Since 1859 every permanent building had required a separate authorization and appropriation for its construction. In 1872 the legislators decided that the War Department could erect such buildings at costs up to $20,000 each without separate legislative action.[10] But no sooner than it had done that, Congress cut the Army's fiscal jugular. In the spring of 1873 the money for barracks and quarters ran out and all construction and repair stopped. The same thing happened in 1874.[11] The only thing that did not stop in the barracks, of course, was deterioration. But in 1874 Congress reduced the Army to an authorized 24,472 officers and men and further pared the budget to match.[12]

As might be expected, conditions at most posts were deplorable. The Army could not even observe its own regulations--as one historian has remarked, "Practically speaking, there were no regulations."[13] Instead, penury and the nature of the Army's mission instilled a philosophy like that expressed by the quartermaster general of the Department of Texas in 1868:

> It is a common remark among troops, that as soon as they make their quarters comfortable and convenient, they have to leave them. I am inclined to believe that the same results attend Frontier Posts; by the time they are made habitable and comfortable, the necessity that caused their construction has passed away,--a new line of defense is adopted, new posts are constructed at more remote points, and the old ones abandoned. Military Posts are matured villages planted in the wilderness to decline and decay as other villages of more permanent character steadily grow up around them. It would seem unwise, then, to say the least, to attempt the construction of permanent buildings, whose stone walls and chimnies a few years hence will serve as monuments to mark the waste of money, as those of Forts Phantom Hill and Belknap now do.[14]

But the general neglect of even the most basic needs of the soldiers was not confined to the frontier. As late as 1881, one officer lashed out against the Army's living conditions in general and asserted that things were not better in the permanent fortifications than in the West:

> Our Engineer Department will not, so far as can now be foreseen, recommend to the Secretary of War, that any attempt be made to provide quarters for the occupation in time of peace, of the garrisons of Permanent works of defense yet to be erected, when there is room for such quarters on the exterior. Casemates are now called war quarters by the engineers, and their use in time of peace as quarters for either officers or men, will doubtless be given up as soon as it can be done.[15]

It was, finally, the doctors who took the Army to task for the way it housed its men. The Medical Department had acquitted itself with distinction during the Civil War--caring for the masses of casualties attributable to officers who did not perform as well in their own spheres. With high selection standards, by the late 1860s the department included physicians of probably higher quality on the average than the majority of their civilian counterparts. They kept pace with the swiftly evolving science of medicine, and especially with emerging notions of the importance of nutrition, sanitation, and fresh air to the well-being of people. Justifiably proud that the Civil War had seen no repetition of the ghastly sanitary conditions of the Crimean War, army surgeons understandably objected to peacetime living conditions that too often called to mind the siege of Sebastopol.[16]

Their spokesman was Dr. John Shaw Billings, one of the most remarkable figures in the history of the Army.[17] In 1870 he compiled and published descriptions of the living conditions at most of the army's posts, based upon the medical histories that post surgeons had been required to keep since 1868, and special descriptive reports demanded for his compilation, under the title of A Report on Barracks and Hospitals with Descriptions of Military Posts.[18] He prefaced the descriptions with a strongly worded summary and no small measure of criticism of the Army's record. He opened his case clearly:

> The most important structures at a post, in a hygienic point of view, are the barracks proper, or soldiers' quarters, and guard-house, including prision-rooms or cells, and the hospital; and the object to be kept in view in their construction is to furnish shelter without diminishing that supply of pure air and light which is necessary to health.[19]

Like many medical men of his day, Billings attributed a wide range of evils to the effects of inadequate ventilation, especially where substantial numbers of men were housed together. He pointed out that most of the European armies had investigated the question of ventilation at length and had prescribed minimum cubic footages of air space per man in barracks; the British Army had settled on 600 cubic feet. For the United States, Billings proposed establishing a standard of 600 cubic feet north of the 36th parallel and 800 cubic feet south of there. But he warned that space alone was not enough to ensure a healthy environment. It was necessary to ventilate the rooms as well. He suggested that heating systems be designed to ventilate the rooms they warmed, although he preferred hot-water heating to the stoves that he said were nearly universal in the Army in 1870. If the Army insisted on using stoves, he proposed the adoption of a "ventilating double fireplace," actually an open-stove air exchanger--the first proposed standard on barracks heating other than the fuel ration. Finally, Billings insisted that barracks be constructed with plenty of windows on all walls.[20]

The doctor railed angrily against the fact that acceptable living conditions were to be found nowhere in the Army--and were not even required by the regulations. His survey showed that the vast majority of barracks were overcrowded, affording far less than 600 cubic feet per man. Seventeen posts had barracks with less than 250 cubic feet per man. And provisions for ventilations were even worse. Of 95 posts reporting, the barracks at 72 had no ventilation at all (except what might filter through flimsy walls).[21]

The living conditions for most enlisted men were even more atrocious than the overcrowding would suggest. Billings felt special disgust at the continued use in the United States Army of multistoried two-man wooden bunks, which he pointed out had long since been discarded by all other armies. In England that had happened so long ago that the accidental discovery of one in a storeroom in 1842 had provoked curiosity and derision of the primitive ways of the ancients.[22]

> An evil which should be put an end to with the least possible delay [Billings avowed], is the use of the double bunk, usually aggravated by placing it in two tiers, and even, as at Fort Buford, in three. These bunks are used in ninety-three, or over one-half, of our posts. It is certainly time that the use of such bunks should be absolutely and imperatively forbidden, and so long as they are allowed to exist in dormitories, so long it is useless to hope that those rooms can be made what they should be. No one acquainted with the first principles of sanitary science will approve of their use. . . .
>
> The only possible argument in favor of their retention is that they enable more men to be packed in a given space, and that they cost a little less than single bedsteads; neither being worthy of consideration, in view of the evils to which these relics of barbarism give rise, and for which the supposed necessity for their use is now considered as a sufficient apology.[23]

Bad as they were, the bunks were almost the only amenities at most posts. Billings decried the almost universal absence of bathing facilities. Stressing the importance of cleanliness to health, he recommended the erection of a bath house separate from the barracks at every post. Nor was he patient with budgetary excuses. "While it may be perfectly true," he said, "that at almost every post the bath-tub should be considered as important an article of equipment as the cooking-stove, it is still no good excuse for lack of bathing facilities that regular bath-tubs and circulating boilers have not been furnished." Thereby letting the quartermasters off the hook, he suggested that officers and men, if they exercised a little ingenuity, could provide themselves with something suitable for bathing.[24]

Turning his critical eye on guardhouses, Billings discovered that at all posts tubs and buckets were universal in cells and prison rooms for the relief of bowels and bladders. The results, predictably, were offensive to an extreme. In their place he recommended the installation of earth closets, accepting for ths moment the objection that water closets could not be furnished at most posts for want of water. Portable commodes using the dry-earth system, he pointed out, had already been provided to army hospitals with beneficial results.[25]

As might be expected, Billings gave special attention to post hospitals, which he said were frequently worse than the barracks. His principal complaint was that the surgeons were never consulted about hospital design or construction, which meant that the buildings frequently were poorly arranged for hospital use. Worse, in his view, was the fact that neglect of the subject altogether was nearly universal, and hospitals seemed always to place last in construction priority.[26]

Billings traced the widespread deficiencies in barracks and hospitals to the fact the War Department had distributed no standard plans or guidelines for construction at military posts, and he rebuked the department for its failure to do so. He believed that the time was long past when the Army should have issued "an order which shall establish the general principles of construction . . ." and afford some uniform guidance throughout the service. He was somewhat at a loss to explain why no such step had been taken, since, as he pointed out, a commendable set of regulations and designs had been prepared and printed in 1860. But those regulations had never been distributed, "and [their] existence even is known to but few officers." But perhaps that was just as well in Billings' judgment, because while he applauded the motives behind the 1860 regulations, he was critical of the results, which did not reflect the advice of the surgeons. "The plans for officers' quarters are good; for the men's barracks, tolerable; for the hospital, bad," he said.[27]

In his summary, Billings asserted that in the Army mortality from disease (excluding epidemics) was 50 percent higher than it need be. That abysmal fact he traced directly to circumstances that could have been avoided. Chief among them, he claimed, was "the bad sanitary condition of barracks. . . . It has been said that we have the best-fed and the worst-housed Army in the world, and the statement seems more nearly correct than such generalizations usually are."[28]

Billings' voluminous and detailed review of conditions to be found at almost every army post had important effects, for the ghastly details could no longer be ignored in Washington (except perhaps on Capitol Hill). By the most providential coincidence, the report appeared just after the quartermaster general himself returned from inspection tours of the Departments of the South and Texas in 1869 and 1870. Meigs pronounced himself "horrified" when he saw how the men lived, the most important cause of his horror being the cursed double wooden bunks. He returned to Washington determined to get single iron bedsteads distributed to the army.[29]

Billings also could take satisfaction from the fact that new standard plans for hospitals were distributed in 1870 with orders that they be followed, and from that year on the surgeon general was empowered to prepare separate estimates and seek appropriations for hospitals.[30]

Another positive influence of Billings' report was on the Quartermaster Department, which in 1872 drew up and distributed standard plans for temporary barracks and quarters in the West.[31] But the secretary of war rejected all plans for bathhouses before the 1880s, citing the low level of construction appropriations and suggesting that the men should be able to look after themselves without cost to the government.[32]

The military hierarchy had not yet heard the last from Dr. Billings on the subject of barracks and quarters. In 1875 he produced another report, modeled on the earlier one, which brought the survey up-to-date.[33] The first target of his renewed criticism was the standard barrack plan issued in 1872. It allowed only 500 cubic feet of air space per man, had "no arrangements for ventilation, and no provision for bath-rooms." Although the 1872 plan was better than what had gone before, he believed that it was not as good as it could be.[34]

The neglect of bathing throughout the Army continued to offend Billings' medical sensibilities, and he picked the subject up again. "I would strongly urge that cheap, strong bathing-tubs, or other means of cleansing the whole body, should be as regular a part of the supply of a post as bedsteads," he argued. After delivering a long discourse on the importance of cleanliness to health, he expressed his pique at the commonest excuse offered for not constructing bathing facilities at the posts--that water was usually in short supply. If that be the case, he said, and if heating were difficult, then showers could meet the need. To prove his point, he offered a design and specifications for a multiple-stall shower unit based on a central reservoir/boiler.[35]

Billings claimed that the deaths or medical discharges of about 100 men per year could be attributed directly to "overcrowded and badly ventilated barracks."[36] But things appeared to be looking up for those men confined to guardhouses, for he approved of the 1872 plan for those buildings, which provided for ridge ventilation--but only so long as provision were made for admitting fresh air during the winter.[37]

Billings discovered only one improvement in living conditions between 1870 and 1875. That was the general distribution of single bedsteads in place of the detested wooden bunks:

> I am very glad to say that the double and two-story wooden bunks are now very nearly abolished, and that the iron bunks now furnished by the Quartermaster's Department are very satisfactory, with the exception of a few, which are two-story in pattern--that is, an iron frame containing two beds, one four or five feet above the other. Under no circumstances, except for the most temporary emergency, should beds be arranged in this manner. It is connected with deficient air-space, and gives an appearance of room when there is not. Every man

> should have his sixty square feet of floor space as much as his ration.[38]

But the wooden bunks were not entirely banished (11 posts still reported them), and the mere introduction of iron bedsteads addressed only part of the prevailing sanitary problems. Billings scorned the Army's oldest sleeping tradition, the blanket and bedsack:

> But even with the single bunks the supply of bedding is unsatisfactory. No sheets or pillows are furnished, and the men come into direct contact with the blankets, and use their greatcoats for pillows. The blankets are seldom washed, although they are aired and beaten occasionally. The bed-sacks are usually too short, and, as Colonel C. H. Smith . . . remarks, "No amount of too short bed can make a man comfortable."
>
> The recommendation . . . that wire mattresses, hair pillows, and sheets be furnished for the troops, is believed to be a good one, the results of which in promoting comfort and content among the men, would be a full equivalent for the money it would cost.[39]

Provisions for eating were not satisfactory in the barracks. Billings was highly critical of the fact that "mess-furniture," meaning plates, forks, and so on, was not issued by the Army and that the men had to purchase their own with company funds. The result was that the men were inconsistently, often incompletely supplied with such articles--which too often had to be shared during meals. He believed that mess furniture should be considered part of the camp and garrison equipage and so supplied by the Quartermaster Department.[40]

Finally, Billings recalled his recommendation in 1870 that ventilating fireplaces be constructed, at least for hospitals. He said that a few were built and tested, including one in the hospital at Fort McHenry. But although in his opinion they worked reasonably well, there were enough technical problems in them to require that their use be halted. Instead, a majority of hospitals in 1875 were heated with sheet-iron cylinder stoves; and there was a continuing, inherent conflict between the needs of ventilation (air exchange) and heating when winter temperatures were very low. All things considered, he suggested that basement furnaces were the best way to heat buildings.[41]

So, according to Billings, the life of the enlisted man had improved since 1870, but not much, and most barracks remained noisome hovels. But perhaps those men who lived in barracks of any description were comparatively fortunate. The same year that Billings issued his second report, the secretary of war complained almost bitterly that, despite years of protests and the strongest recommendations of the surgeons, men at most of the coastal fortifications still had no quarters or hospitals and were forced to live in casemates.[42] That situation had not changed by the end of the decade.

Improvements came in small packages in the decade and a half after the Civil War. And they came in the absence of any comprehensive policy on how soldiers should be housed and what furniture should be available to them, except in the broadest sense. On a case-by-case footing, during the 1870s the Army first banished the double wooden bunk, giving the men at least three different kinds of single iron besteads, with two versions of one of them (and with wooden slats not always delivered with the frames). A policy on stoves was established and standard patterns became the rule. Footlockers were introduced to permanent barracks, and later chairs and pillow sacks, and by the end of the decade the Quartermaster Department had begun to address the need for decent light in the men's quarters. Specifications for all kinds of supplies, which steadily increased in variety, were formalized and updated.[43] But these miscellaneous actions did not represent policy, nor were they taken consistently. Here and there men still slept together on double bunks, and everywhere they had to await the passage of years before they received sheets to sleep in or forks to eat with, unless they provided their own.

Nonetheless, by the end of the decade the Army was headed toward reform in the way it managed, housed, and furnished its soldiers. The pressures were there, and not only from protesting surgeons or officers at the posts. The men exerted their own influence by deserting in great numbers, running away from conditions that few self-respecting people would tolerate.

To keep the men home from groggeries and brothels, or from going over the hill, "home" had to have some appeal. It was widely supposed in the 1860s and 1870s that a well-supplied reading room would equal the attraction upon the soldier of any den of iniquity. In 1878, therefore, the secretary of war convened a board of officers to develop recommendations on how the 1866 legislation authorizing post schools and reading rooms might be implemented. The board suggested using post funds and Quartermaster Department appropriations for construction. Thereafter, the Quartermaster Department began to furnish a growing number of posts with buildings for schools, chapels, reading rooms, and libraries. In addition, also on the board's recommendations, the department began to procure and distribute to post libraries as many periodicals and newspapers as its incidental expense appropriations allowed. That may not seem important by itself, but it marked the first time in its history the Army supplied something for the comfort of the enlisted man that it was not forced to by absolute necessity. And the belated solicitude proved highly satisfactory. In 1881 the secretary of war was pleased to announce, "The reading-rooms established at most of the posts are very popular with enlisted men as well as officers. The average daily attendance upon them is about 4,800."[44]

That same year the Quartermaster General followed suit by encouraging other on-post alternatives to off-post distractions, through the publication in a popular building magazine (distributed to post libraries) of plans for bowling alleys and billiard tables. Although public funds could not yet be used for such puposes, Meigs hoped that the men would use the plans to build their own facilities and, presumably as an indirect result, further elevate their moral character.[45]

It was a last gesture, for on February 6, 1882, Montgomery Meigs retired.[46] An era in army supply ended with his departure, and the ultimate establishment of real policies on furniture and other comforts for the soldiers would come after his time. But it was he more than any other person who had led the United States Army in a transition from wood and handcrafts to iron and industrialization.

Even as Meigs departed, some fundamental things were already about to change for the Army and its treatment of its men. A reform-minded secretary of war, Robert T. Lincoln, had taken office in 1881, and an "army reform" movement was just getting underway. Although it was only partly successful, it changed conditions in the ranks a good deal.[47]

In the century since the Continental Army brought Cornwallis to bay, there had been little real change in the living conditions of the soldiers. Such advances as had occurred were superficial, and did little to improve the quality of life as a whole. A Continental Army veteran entering a typical barrack room as late as 1870 would have found little that was unfamiliar to him. The same could be said of the barracks of 1880, with the single exception of the new bedsteads. But by 1890 that would no longer by the case, and there were many more changes yet to come.

The officers of the Army seemed to know that reform was in the air, and some of them tried to make 1880 a dividing point between an unhappy past and an enlightened future, at least for soldier housing. Lieut. Col. Thomas W. Anderson that year surveyed fellow soldiers and army surgeons on what should become the standards for barracks and their furnishings. Among other things, he found that overcrowding was generally deplored, and that there was universal agreement that no more than one company should be housed in one barrack. But the officers split widely on the question of whether the whole of a company should be in one big room or divided among squad rooms; strong arguments supported every position. "The English, who have tried both systems," he said, "have finally settled on a sleeping-room of twenty-four beds as the best for their organization." He went on to point out that enlisted men, when asked, universally preferred the smaller rooms. It was the first time the common soldier had been asked his views on such a matter.[48]

But in meeting some basic needs, Anderson complained, the Army in 1880 had a long way to go. Cleanliness was one:

> On the subject of bath-rooms there is absolute unanimity. The Regulations say the men must be made to bathe frequently; the doctors say it should be done; the men want to do it; their company officers wish them to do so; the Quartermaster's Department says it is most important, yet we have no bath-rooms.[49]

Again Anderson placed the desires of the soldiers on a par with the opinions of officers, doctors, and War Department bureaucrats. Such interest in the men's sentiments was new in 1880, but it grew out of an increasing regard for their well-being that had surfaced since the end of the Civil War.

Notes

1. Meigs to Sherman July 9, 1866, quoted in Risch, Quartermaster Support, 484-85. This was in the midst of a protracted and often heated correspondence among high-ranking officers regarding the execrable conditions at the western posts, much of which Sherman goaded the Quartermaster Department with by publishing it in his annual reports. Other selections from those exchanges appear in other parts of this report.

2. Ibid., 489.

3. Ibid., 486-87. Jack D. Foner, The United States Soldier Between Two Wars: Army Life and Reforms 1865-1898 (New York: Humanities Press, 1970), 16-17.

4. John E. Cox, Five Years in the United States Army: Reminiscences and Records of an Ex-Regular (Owensville, Ind., 1892; reprinted New York: S. Lewis, 1973), 108-10.

5. Sept. 19, 1896, quoted in Don Rickey, Forty Miles a Day on Beans and Hay: The Enlisted Soldier Fighting the Indian Wars (Norman: University of Oklahoma Press, 1963), 95n.

6. "Barracks and Quarters," Army and Navy Journal 4(March 23, 1867):492.

7. ARQMG 1868, H. Ex. Doc. 1, 40 Cong. 3 Sess., 814; Risch, Quartermaster Support, 491. As examples of the technical errors, at Fort Davis officers' row was established on low ground at the mouth of the canyon and was consequently subject to routine flooding; an elaborate diversion system later had to be built to correct the problem. At the same post the third barracks was not completed. Its adobe walls stood roofless for several years, and as a result the building became a maintenance nightmare when it finally was finished. It was also the first

building to erode when the post was abandoned in the 1890s. Few of the 1868 buildings at the Texas posts were properly or efficiently constructed.

8. ARQMG 18969, H. Ex. Doc. 1, 41 Cong. 2 Sess., pt. 1, pp. 222-23; Risch, *Quartermaster Support*, 491; Weigley, *History of the United States Army*, 267.

9. ARSec War 1871, H. Ex. Doc. 1, 42 Cong. 2 Sess., pt. 1, p. 9.

10. Risch, *Quartermaster Support*, 487.

11. ARSecWar 1873, H. Ex. Doc. 1, 43 Cong. 1 Sess., pt. 1, p. 8; ARQMG 1874, H. Ex. Doc. 1, 43 Cong. 2 Sess., pt. 1, p. 108.

12. Weigley, *History of the United States Army*, 267. See also appendix N. The force was divided in eight departments, 11 districts, and three divisions in 1879.

13. Risch, *Quartermaster Support*, 488.

14. E. J. Strong, quoted in J. Evetts Haley, *Fort Concho and the Texas Frontier* (San Angelo, Tex: San Angelo Standard-Times, 1952), 132.

15. Lieut. Col. Thomas M. Anderson, "Army Posts, Barracks, and Quarters," *Journal of the Military Service Institution* 2(1881):446.

16. The standard history of the Medical Department is P. M. Ashburn, *A History of the Medical Department of the United States Army* (Boston: Houghton Mifflin, 1929). Concerning the quality of army doctors, Wil Ebel concludes flatly, "Compared with civilian doctors, the soldier-doctors were a learned men. Soldier-doctors were graduates of regular medical colleges while many civilian doctors . . . had never seen a sheepskin other than on a sheep." Wil Ebel, "Soldier-Doctors--and a Personal Tragedy," *Periodical Journal of the Council on Abonadoned Military Posts* 9(Fall 1977):24. The periodical literature includes many studies of

individual surgeons in the post-bellum period and more than a few from earlier times. For one example, expecially as regarding the details of medical practice at a post, see my "The Role of the Army Surgeon in the West: Daniel Weisel at Fort Davis, Texas, 1868-1872," Western Historical Quarterly 3(Jan. 1972):53-66. For the antebellum period, two good examples are Paul J. Scheips, "Albert James Myer, an Army Doctor in Texas, 1854-1857," Southwestern Historical Quarterly 82(July 1978):1-24, and James O. Breeden, "Health of Early Texas: The Military Frontier," Southwestern Historical Quarterly 80(Apr. 1977):357-98.

17. John Shaw Billings established himself as a pioneer in both American medicine and American library science. Born in southern Indiana in 1838, he graduated from Miami University in 1857 and earned his M.D. at the Medical College of Ohio in 1860. He entered the Army as an assistant surgeon April 16, 1862, serving in the field until transferred to the Surgeon General's Office in 1864, where he remained for 30 years, eventually as deputy surgeon general with the rank of lieutenant colonel. During those three decades, he collaborated with Dr. Robert Fletcher to produce the Index-Catalogue of the army Medical Department library, something that CDAB describes as "a most important contribution to American medicine." It also earned him the title of "father" of the National Library of Medicine and made him well-known in library circles as well as in medicine. Billings was a man of varied accomplishments, many publications, and several honors, including two brevets during the Civil War. He planned the Johns Hopkins Hospital and is regarded as an outstanding pioneer in preventive medicine--as his 1870 and 1875 reports on barracks reflect. Billings retired October 1, 1895 and spent the rest of his life in New York. He was asked to go there to consolidate the Astor, Lenox, and Tilden libraries into the New York Public Library--making him the "father" of that great institution as well. He died in New York in 1913. CDAB, 80; Heitman, Historical Register, 1: 218.

18. John S. Billings, A Report on Barracks and Hospitals with Descriptions of Military Posts, Circular 4, Surgeon General's Office (Washington: Government Printing Office, 1870).

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19. Ibid., vi.

20. Ibid., vi-xiv. An early version of the ventilating fireplace is shown in the 1864 barracks design in appendix B.

21. Ibid., ixv-xv. The current regulations, he pointed out, prescribed 225 square feet of floor space (375 cubic feet on the average) per man north of 38° and 256 square feet (426 cubic feet) south of 38°.

22. Ibid., xvi.

23. Ibid. Billings' numbers relate to the number of posts (chiefly those with resident surgeons) responding to his survey rather than to the total number of army posts. Any figures on the numbers of posts--including the 255 for 1869 offered previously--should be read with caution for the two decades after the Civil War. The question was really one of definition. Many subposts, camps, stations, and the like were not regarded as posts, no matter how substantial or long-inhabited. On the other hand, frequently they were included when the number of posts was counted. Much the same problem of definition apparently applies to buildings. The Quartermaster Department's figures changed from year to year to a degree beyond what could be accounted for by construction and abandonment.

24. Ibid., xvi-xvii.

25. Ibid., xvii. The earth closets and portable commodes using the dry-earth system were "honey-bucket" privies. That is, wastes were deposited in removable containers that could be emptied at an appropriate location.

26. Ibid., xx-xxi.

27. Ibid., xxv. He was referring to Barracks Regulations 1860, printed in 1861. See appendix B.

28. Ibid., xxxii. The statement about unnecessary mortality attracted the particular notice of the Army and Navy Journal, which gave Billings' report a warm, if brief, reception. "Barracks and Hospitals of the Army, " Army and Navy Journal, 8(Jan. 21, 1871):359-60.

29. Risch, Quartermaster Support, 488; Meigs to Bingham and Ludington. Sept. 25, 1871, QMConFile--Bunks, RG92.

30. Risch, Quartermaster Support, 486; Foner, United States Soldier Between Wars, 23; U. S. War Department, Surgeon General's Office, Approved Plans and Specifications for Post Hospitals, Circular 3 (Washington: Government Printing Office, 1870); Approved Plans and Specifications for Post Hospitals, Circular 2 (Washington: Surgeon General's Office, 1871); Approved Plans and Specifications for Post Hospitals, Circular 10 (Washington: Surgeon General's Office, 1877). These printed documents are filed in the Records of the Office of the Surgeon General (ROSG), Circulars and Circular Letters, 1861-85, RG112, NA.

31. ARQMG 1872, H. Ex. Doc. 1, 42 Cong. 3 Sess., pt. 1, p. 148. The plans are presented in appendix B.

32. Risch, Quartermaster Support, 488-89.

33. U. S. War Department, Surgeon General's Office [John S. Billings], A Report on the Hygiene of the United States Army, with Descriptions of Military Posts, Circular 8 (Washington: Government Printing Office, 1875).

34. Ibid., ix. Billings said that the first barracks built according to the 1872 plans was at Fort Douglas, Utah, but there were others in existence at other posts by 1875. Note that this statement confirms that the washroom shown in the 1872 plan, like that in the 1860 plan, was for laundry, not men. The Army's terminology clearly distinguished a "wash-room" from a "bath-room."

35. Ibid., x-xi. See appendix L for the design and specifications. I was not able to determine whether any showers on Billings' plan were built, although the basic idea was simple to the point of elegance.

36. Ibid., xvii.

37. Ibid., xviii.

38. Ibid. Some or all of the two-story models may have been pipe-legged Composite bunks purchased in fiscal year 1871. See the following chapter and appendix G.

39. Ibid.

40. Ibid.

41. Ibid., lvii.

42. ARSecWar 1875, H. Ex. Doc. 1, 44 Cong. 1 Sess., 6.

43. The administrative history of these subjects is addressed in the following chapters, and the specifics in other parts of this report.

44. Risch, Quartermaster Support, 489-90; ARSec War 1881, H. Ex. Doc. 1, 47 Cong. 1 Sess., pt. 2, p. 23.

45. Risch, Quartermaster Support, 490.

46. Ibid., 514.

47. Foner, United States Soldier Between Wars, 77-95, traces the history of the army reform movements, whose beginnings he puts at 1880-81. I suggest that some of the seeds were sown in the poor housing and wooden bunk discussions of the preceding decade and a half.

48. Anderson, "Army Posts, Barracks, and Quarters," 431-33.

49. Ibid., 433-34.

9

THEY GIVE EACH SOLDIER A SEPARATE AND DISTINCT BED

(1866-1880)

Immediately after the Civil War the Army continued the general use of double wooden bunks, in two (sometimes three) tiers, mostly built on site at the military posts. Yet, at the same time it had on hand almost a half-million single iron bedsteads that it was selling as surplus as rapidly as possible. Those were mostly the "hospital pattern" bedsteads, evidently not believed sturdy enough to withstand the hard usages of barrack rooms; those in photographs of Civil War hospitals indeed do not appear very rugged. There were a variety of ways to get rid of them. In 1866, for instance, 34 iron bedsteads, 2,984 single bedsacks, and 626 double bedsacks were among the list of surplus clothing and equipage and hospital furniture donated to the city of Portland, Maine, as relief after a disastrous fire, in obedience to an act of Congress.[1]

Official interest in converting to iron bedsteads for barracks continued spasmodic. Eventually, it was spurred by the old problem of finances. In 1867 the quartermaster at New York City had 1,000 wooden bunks built by contractors because extra-duty men were not available for the purpose. But he paid $9.50 per unit. Even if that were spread (presumably) over the requirements of four men, surely America's growing iron industries could fill the Army's need more cheaply, at least in urban centers.[2]

The demand for bunks was greatest, and most expensive to meet, around New York City, since forts there housed the largest concentrations of recruits. It is not surprising, therefore, that the earliest postwar attempts to develop a suitable iron bunk came from that city--as had the earlier efforts of Whiting and Johns in the years before the war. Lieut. Col. Henry D. Wallen of the 14th Infantry submitted the first candidate to the Quartermaster Department late in 1867. A board of officers assembled to examine his bunk and in December offered the following description and recommendation for the quartermaster general:

> [The board members] find that it is constructed of wrought iron, and put together in a manner to insure strength and durability. It is 6 ft. 3 in. long in the clear, and 6 ft. 4 in. long outside, 30 inches high, at the head board, and 14 inches high generally, 2 ft 3 in wide in the clear, and it weighs about 80 pounds, which can be furnished at 15¢ per pound, perhaps less. The bunk is made to fold up so as to greatly economize space in the barracks, and a comfortable shiny seat is formed by a piece of board that comes up as it is folded. The knapsacks, belts, muskets, and mosquito bar are supported on the shelf and projections. It contains a box or locker for cleaning utensils & surplus clothing &c, this box can be unlocked and opened on either side.
>
> The Board is of the opinion that where barracks afford sufficient space to allow each man room enough to sleep without others above or below him, that Genl Wallen's bedstead would meet the wants of the service most excellently and they recommend its adoption by the Government, in the most earnest manner, but not to the exclusion of other bedsteads possessing superior merits with which the Board however have no way of making a comparison, as they are confined in the action to the one presented to them.[3]

There is no evidence that any of Wallen's bunks were manufactured or placed in barracks, although it is conceivable that some were introduced at the New York forts. It is also possible that Wallen produced his bunk as a one-man variation of the double folding iron bedsteads known to have been in use at Governors Island at least as early as 1854.[4]

At about the same time that the Army was examining Wallen's bunk, Col. Delos Sacket, one of the inspectors general, pushed forward as his own invention a two-man bedstead devised by C. S. Snead of Louisville, Kentucky. He too gained the attention of a special board of officers, who recommended that a few be purchased for testing, if its 109-pound weight could be reduced. That sturdy contraption, which Snead patented in 1869, would apparently have lasted forever. Constructed completely of heavy wrought iron, it was a two-level affair with foot lockers built onto the front of the top and bottom bunks, and racks for two muskets at the opposite end. But besides its weight, Snead's bunk had another objectionable characteristic--the Army could not afford it. In 1870 Snead offered to provide his two-story bunks at $18.00 each, and a single-level version for hospitals at $10.00; he got little attention from the Quartermaster Department with those prices.[5]

The subject of iron bedsteads continued to be addressed without central direction from the Quartermaster Department. Decisions on whether to procure manufactured bedsteads were made locally, and the bunks began to appear, especially around New York, in such numbers and varieties as local budgets allowed. During the winter of 1867-68, the recruiting depot at David's Island, New York, began to fill up with men. But there were no bunks on hand and no carpenters available to build them, so the men slept on floors. Assistant Quartermaster General Rufus Ingalls, in reponse to a request for 1,000 bunks, concocted something called a "Jack" bunk. The depot commander fairly gushed with enthusiasm after the first lot was delivered, "[I]t is the best bunk that I have seen in the Army. It consists of three pieces--the upper & lower 'Jacks' are of wrought iron--the upper one having an iron head-board attached to it. The bottom of substantial slats battened and well screwed together. I consider these bunks exceedingly serviceable and worth more than the price paid for them." He recommended that they be furnished to all recruiting depots. But Ingalls had ordered only 600 by the end of the year and asked approval of that action and permission to build the remaining 400. Wallen joined a number of other officers in endorsing Ingalls' action, but nothing further was said about the matter.[6]

The determined Ingalls kept trying. On October 21, 1869 he ordered the manufacture of a bedstead "similar to the 'Miller' bunk" with some modifications "with a view (if it worked well) to send the sample West, and have the Bedsteads made for Fort Riley." The Miller bunk, he said, was easily disassembled and also could be stacked up in daytime. Ingalls acted in reponse to instructions from Meigs, who had sent him a sketch of a "Pattern Bedstead" with orders to have one made as a sample. Along with that one, he forwarded to Meigs another, apparently of his own design, which he described as "a folding Iron Bedstead recently gotten up in this city [Philadelphia], which surpasses, in my opinion, anything of the kind now extant." Whether this was the Jack bunk, or another variation on Wallen's theme, is not apparent. In any event, the question of whether to supply 500 to Fort Riley was deferred by the quartermaster general, whose office two years later could find no description of the Miller bunk in its files.[7]

Although most of the unsystematic attention to the procurement of iron bedsteads centered on the New York area, which was served by the Philadelphia office, interest in the subject surfaced elsewhere, as the following letter from the quartermaster depot at St. Louis to the quartermaster general of the Military Division of the Missouri reflects:

> In your order for stores for Fort Riley dated July 27, 1869, two hundred fifty (250) Iron Bedsteads two story or double, are called for.
>
> There are none to be found in this city ready made, but I can have them made according to the enclosed plan and specifications for fifteen dollars ($15) each. As the cost is so much greater than the single iron bedsteads, which can be purchased from the Medical Department for fifty cents each, I do not feel authorized to order the two story bedsteads to be made without further authority. Please instruct me what to do in the matter.[8]

Despite the fact that conversion to single metal bedsteads had been order since 1854, it is apparent that much of the Army regarded such objects as the "hospital pattern" and assumed that healthy men should sleep in pairs. That confusion was not the only influence retarding the distribution of iron bunks to the men. There was also a lack of direction from the Quartermaster Department, with a consequent absence of clear purpose on the part of quartermaster officers at the depots. No one would make any definite decisions. Appropriations were another problem. It was assumed that manufactured bedsteads must be paid for out of the budget for barracks and quarters, which was already under considerable strain just to keep the thousands of ramshackle buildings in repair.

Finally, it is reasonable to suppose that the responsible officers were sufficiently insulated from the terrible conditions of barracks life that they could ignore the problem without personal discomfort. The result was that as late as 1870 the Quartermaster Department did not carry iron bedsteads in its annual inventories of stores on hand, and although iron bedsteads could be found here and there, especially around New York, the vast majority of the men slept in pairs on tiered wooden bunks infested with insects.[9]

All that changed, and very quickly, beginning in 1869. The quartermaster general's comfortable insulation from the realities of barracks life ended when he made a tour of inspection through the South and Texas in 1869 and 1870. The "rough-board, vermin-infested bunks" at the Texas posts "horrified" him. He vowed that at least one feature of barracks living would change.[10]

Knowing that eventually the army would have to purchase bunks for some 30,000 men, in the late 1860s a substantial number of would-be suppliers presented samples of their wares to the Quartermaster Department. The various bedsteads accumulated in storage after receiving only passing attention. On October 6, 1869, Meigs prepared a sketch of an iron and wood bunk combining features of several of the samples, which he passed to his staff with the inscription, "Let a pattern of this Bedstead be made as soon as possible."[11] This would later be known as the "Barrack bunk."

The next year was devoted in part to developing a standard pattern for a general issue army bunk. By 1871 Meigs was ready to go forward with the project and cleared the bureaucratic obstacles in September of that year by ordering his staff to reclassify bedsteads as an item of camp and garrison equipage, thereby removing them from competition with barracks and quarters.[12]

The actual adoption of a standard army bunk was not as simple a process as it might have been. Purchase of metal bunks by post and departmental quartermasters was authorized at the start of 1871, and Meigs placed a high priority on the shipment of bunks to Texas. But developing a standard took some time, as both Meigs' Barrack bunk and competing commercial models had to be tested and improved. Of the latter, a sample submitted by the Composite Iron Works Company of New York appeared superior to all others.

By July 24, 1871, Meigs had made his decision. The secretary of war had already authorized the manufacture and shipment of 4,000 of the Barrack model to the Texas posts, but Meigs believed that the Army should have the choice of two bunks, given the superiority of the Composite model over his own design. He submitted two sketches for the secretary's approval, along with a rambling, complicated presentation.

The Barrack bunk, he said, had been derived from several patterns received from various sources and had the signal advantage of not being patented or, he believed, patentable. It also could be stacked in the daytime to reduce crowding in the barracks.

The pipe-legged Composite bunk, on the other hand, was manufactured by a patented chilled-iron casting process. It was "considered excellent," and "quite a number" had already been ordered in the preceding six months. Since the Army was about 30,000 men strong, Meigs pointed out, it would require about 30,000 bunks, and it could be expected that there would be a demand for the Composite model: "These Bunks are so much better than those in general use in the Army that all will ask for them."

Comparing the two, Meigs priced the Barrack bunk at $7.00 and the Composite at $8.00, but he thought the greater durability of the latter justified the cost. Why, then, not adopt it as the one model for the Army? Because, he argued, the government should not put itself at the mercy of patent holders. He therefore suggested that both models be adopted to allow a non-patented alternative and that he be allowed to solicit proposals to supply either or both. Four days later the secretary granted his approval.[13]

But the procurement of bunks was already underway. In August the contract for 4,000 Barrack bunks was filled and all were shipped to Texas, less 292 diverted to Baton Rouge, Louisiana.[14] About 1,600 copies of a similar bunk, manufactured by M. C. Miller of New York, had also been purchased, probably that same year.[15] And it is evident that there were other purchases of other bunks arranged locally. Such sporadic action was not what Meigs had in mind. He therefore instituted one of the earliest large-scale solicitations for an item of supply that the Army ever made in peacetime.

On September 8, 1871, the Quartermaster Department advertised a request for bids for up to 12,000 bunks. Prospective bidders were asked to submit costs for either of the two bunk models, with and without wooden slats.[16]

By the end of October the Quartermaster Department had received proposals from seven firms to supply iron bunks.[17] Two of them were unexpected and bothersome. The lowest eastern bidder was M. C. Miller of New York, who proposed to furnish the Barrack bunks at $7.00 each, "painted two (2) good coats of Lead and Oil Paint, complete," or without slats, painted, for $5.00. But he had some news for Meigs: "Being the inventor of this Bunk, I have furnished the Quartermaster Department 1600 of same, and I believe there has never been any repairs required to them since they were made, and are pronounced to be the best article furnished for the purpose intended."[18] This, apparently, was the Miller bunk of two years previous, and Meigs may have had some understandable worry that his "unpatentable" Barrack bunk was inadvertently a copy of Miller's design. But, it turned out, Miller's bid was for a bunk not advertised, and Meigs launched a fruitless search to find out just what it was.

The notes of the quartermaster general's review of the proposals show that Miller was not the only bidder to confuse the process. The next lowest eastern bid was from the Composite Iron Works Company, also of New York. But they, too, had departed from the advertised designs. They proposed to supply the "Chase" model bunk, a simplification of the "original Composite or Pipe Bunk," at $5.50 a copy (without slats). The new bunk was actually an improvement over the earlier one--among other things it could be stacked, and it was clearly based on the stacking feature of the Barrack bunk; gone were the cast-iron gas-pipe legs, replaced by Y-shaped wrought-iron feet matching those on the Barrack bunk. But there was some question about whether that justified its higher cost when compared with the lowest western bid--from Snead of Louisville for the Barrack bunk--at $4.75 (the next lowest western bid was $5.50). The Composite was really the better of the two, but the extra 75 cents per unit would amount to $15,000 for 20,000 bunks. On the other hand, Meigs believed that the transportation costs of the Barrack model might be higher.

When he did render his decision, Meigs, with the aplomb of a seasoned bureaucrat, came down on both sides of the question. Miller vanished from consideration with his mysterious bunk, and the Quartermaster Department awarded two contracts for both other models--on November 22, 1871 to Snead, and five days later to Composite.[19] With the mass procurement finally underway, Meigs summarized the entire subject for the secretary of war at the end of 1871:

> Many years since it was ordered by the War Department that the wooden bunks, used in the barracks, difficult to keep clean and affording harbor for vermin, should be replaced by single iron bunks. The war interfered with the provision of such bunks very necessary to health and morale of the troops, and the work is now in progress. The estimates submitted for the next year contemplate the completion of this work.
>
> The service to which these iron bedsteads are exposed in barracks is severe, and several patterns heretofore in use have failed in actual service.

> Two patterns are now manufactured, which are believed to be well fitted for use. They have been tried at several posts, and thus far always with favorable results. One is made of bar-iron, the other of gas-pipe [sic]; both have wooden slats to support the bed, and are easily taken apart for transportation. Both are so arranged that in the daytime they can be piled three tiers high without disturbing the bedding, but when in use at night they are all put upon the floor, and no soldier will be obliged to sleep over his comrade's bed.[20]

The Army's Barracks Board authorized the distribution of a total of 8,471 iron bunks to military posts during 1871, not counting those (including Miller's) purchased without authorization. All of them were purchased before the two major contracts to Snead and Composite. Since they were a new item of issue, and a comparatively expensive one, the Quartermaster Department accounted in that first year for every bunk and its destination.[21] The following is the distribution of the Composite iron bunk, showing destination and number:

Fort Sully, Dakota	264	
Newport Barracks, Kentucky	300	
Fort Hays, Kansas	60	
Nashville, Tennessee	100	
Fort Larned, Kansas	100	
Fort McHenry, Maryland	84	
Nashville, Tennessee	180	
Omaha, Nebraska	600	(plus 100 Barrack bunks)
Fort Randall, Dakota		270
Fort Wayne, Michigan	250	
New York	40	
Fort Whipple, Virginia	150	
Atlanta, Georgia	300	
Columbia, South Carolina	40	
Darlington, South Carolina	75	
Sumter, South Carolina	60	
Pulaski, Georgia	120	
St. Augustine, Florida	120	
TOTAL COMPOSITE BUNKS	3,113	

All of the foregoing were probably of the earlier pattern used as the basis for the solicitation in September rather than the later model submitted with Composite's bid and actually purchased after November

1871. Also, it can be supposed, but not with absolute certainty, that many of the 600 bunks shipped to Omaha were destined for service at posts farther west.

From the same list, the following is the distribution of the Barrack iron bunk, showing destination and number:

Nashville, Tennessee	86	
Angel Island, California	50	
Leberton, Kentucky	60	
Omaha, Nebraska	100	(plus 600 Composite bunks)
Newberry, South Carolina	60	
Fort Hays, Kansas	60	
Fort Harker, Kansas	300	
Humboldt, Tennessee	60	
Shelbyville, Kentucky	35	
Newport Barracks, Kentucky	24	
Frankfort, Kentucky	146	
Chicago, Illinois	200	
Jackson, Mississippi	57	
Fort Leavenworth, Kansas	120	
Texas Posts	4,000	
TOTAL BARRACK BUNKS	5,358	
TOTAL BOTH BUNKS 1871	8,471	

It should be noticed that some locations received both models. But Meigs was obviously on solid ground when he predicted that the Composite product would be popular in the Army. If not for his personal involvement in the Barrack bunk, and the large special order for the posts in Texas,[22] Composites would have outnumbered Barrack bunks by almost three to one. Partly as a result, the Barrack bunks purchased from Snead in November 1871 were the last of this type acquired by the Army.[23]

The Barrack bunk soon caused problems. At first the new bedsteads received high praise, chiefly because they were so delightful a contrast to their much-bedamned wooden predecessors. But were they all they could be? The acting quartermaster at Brownsville, Texas, was the first to offer suggestions for improvement. He wanted to add two bolts to the head piece to "hold the soldiers chest," two upright rods to support a

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shelf to hold the knapsacks, and something to which a mosquito bar could be attached. With such changes, he promised, the bunk would be the best army bed possible.[24]

But more serious technical defects appeared in the Barrack bunk. By December 1871 reports arrived that the screws ("screw-bolts") holding the slats down had a tendency to break when weight was put onto the bed. An officer at Lebanon, Kentucky, suggested slotting the slats as a remedy, since the screws were set too tightly into the wood. When that was relayed to Snead and Company, the firm suggested a new bolt instead, asking for a quick decision because mass production of the bunks was about to begin.[25] But, in the Army's bureaucratic way, the press of other commitments prevented the request from reaching the quartermaster general's attention.

In June 1872 a very frustrated Snead complained to the Quartermaster Department. The firm reported that it was turning out about 50 bunks a day, had already delivered 1,198 to the Quartermaster Department, and was about to deliver another 1,000. The Army's tardiness over the question of the bolt aggravated the company's other problems. Having made a major investment in machines to manufacture the bunks, they had had difficulty in obtaining supplies of steel; the shutdowns had required training a new staff of workmen every time production resumed. Further delay on the Army's part, Snead suggested, would again cause them to lose their experienced workers, thus further retarding production.[26]

Actually, the department had already agreed to the change, although word had not yet reached Snead. Although most or all bunks produced under the contract had screws, replacement bolts eventally found their way to all Barrack bunks in service. Whatever the case, the chief quartermaster of the Military Division of the South was called on to make a special investigation of the bunks produced by Snead and reported that all were "of good quality and give entire satisfaction." He, too, urged that the bolt question be resolved.[27]

During fiscal 1872 the quartermaster general reported that he had distributed 8,666 iron bedsteads, probably about half each from Composite and Snead. "They give each soldier a separate and distinct bed," Meigs said, "and conduce both to comfort and health, and are a great improvement upon the rough wooden two-story bunks heretofore in general use at military posts." But thereafter the Composite bunk was to be favored over the Barrack model, and apparently no more of the latter were bought after the first large contract to Snead in November 1871. "The contract for the ensuing year [fiscal 1873] has been awarded to the Composite Iron Company, their bunk being the best," Meigs continued. "The price is $5, which is the same as last year's price for this bunk."[28]

At the end of the fiscal year, June 30, 1872, the Quartermaster Department carried 17,448 iron bunks and 1,745 individual bed-slats on its inventory of stores. Their influence on other items of supply was remarkable. For the first time in its history, the Army had in stock more, in fact twice as many, single as double bedsacks, and almost ten times as many single mosquito bars as doubles. The following year the inventory had grown to include 3,939 slats, 27,277 iron bunks, and 1,080 "bed steads," with single bedding still greatly outnumbering double bedding. By that time the Army was well supplied with iron bunks, although in fiscal 1874 it purchased an additional 6,993, together with 8,784 sets of slats.[29] The following year a new bunk entered the inventory.

All was not well with the Composite bunk. The company, its fiscal 1873 contract in hand, now held a monopoly on the Army's bunk supply. It may have achieved that position by cutting its price, hoping to make up the loss by altering production standards. In October 1872 the firm's vice-president, Irah Chase, proposed certain changes for the bunk. He wanted to substitute a new chill in place of the shield on the head and foot trestles and to omit the four short corner rods at the bunk ends. This new version of the bunk, he promised, would be "equally strong in every respect and will enable us to make and furnish them without a loss to ourselves and be a savings to the government . . ." Asking for a quick approval of changes, he said the company would guarantee every bunk against breakage. He got a quick response from Meigs, but not what he wanted. Denying the requested alterations, the quartermaster general pointed out the legal questions such a step would raise, coming as it would after the contract had been let, and held Composite to contract specifications. In 1873 the company issued an advertisement for the revised design, claiming that it had been adopted by the Army--a falsehood.[30]

Terminology had also begun to cause confusion. The bunk in production since November 1871 had been called the "Chase" by the Quartermaster Department, while the company termed it the "Composite," which had been the name of the earlier model. By the summer of 1873 the proliferation of names tossed around--"Pipe," "Chilled Patent," and other labels--was baffling. For the quartermaster general, as for the King of Siam, it was all "a puzzlement." He asked the company for clarification. Chase outlined the history of the product, and said that the first bunk was the "Pipe Composite" bunk with horseshoe corner braces. That model had been abandoned and replaced with the "Chase" bunk (the mass production model), which the company now called the "Composite bunk." That name was retained thereafter.[31]

Bed slats also caused some difficulties in the early years, chiefly because they were not furnished with the bedsteads but were to be manufactured at the military posts. After receiving the 1871 proposals, Meigs had decided this was a more cost-effective method.[32] In 1873 the Quartermaster Department directed that the slats be made of dressed 1-inch hardwood. Assistant Quartermaster General James Gillis objected to that on the grounds that it would be difficult to retain a full-inch thickness if the boards were dressed on both sides. He proposed that rough hardwood be specified.[33] What was actually used probably varied considerably from post to post, depending upon materials and facilities available.

Also in 1873 the chief quartermaster of the Department of Texas objected in almost sarcastic terms to the fact that the bunks were shipped to the posts without slats. At several of the posts in his department there were no materials available with which to manufacture slats; in such circumstances, he suggested, the bunks might just as well remain in the depots. He asked that bunks and slats be shipped together, and the Quartermaster Department's annual inventories show that there was some procurement of bed slats during the 1870s.[34]

After so many years of inaction and indecision, the Quartermaster Department made remarkable progress in distributing the new bedsteads to the Army. In his annual report for 1873 Meigs was able to report with considerable satisfaction that almost all military posts had been supplied with the new bunks.[35] In his Report on Hygiene in 1875 Dr. Billings was "glad to say that the double and two-story wooden bunks are now very nearly abolished . . ."[36] They were not all gone, of course, for Billings' report showed them still in place at 11 posts,[37] and some of the relics survived here and there for many more years. As late as 1939 double wooden bunks in two stories were in use for prisoners in the guardhouse at Fort Totten on Long Island.[38]

It would seem that the history of army bunks before 1880 was concluded by 1874, but it was not. In acting with haste to compensate for years of neglect, Meigs had first distributed an inferior product, his Barrack bunk. By 1874, although no more Barrack bunks had been purchased since fiscal 1872, many remained in use. But the Army came to regret the haste with which it also had adopted the slightly better Composite bunk.

In May 1872 H. B. Coyle of Philadelphia received a patent for an "improvement in bedsteads." His invention was a folding, iron-framed cot with a canvas trampoline bed.[39] That model evidently was never the subject of serious consideration for the Army, but two years later Coyle's Washington agent brought a wholly new army bunk to Meigs' attention and the quartermaster general was very favorably impressed.

Coyle's bedstead had a number of advantages over the Composite. The weight of his model was 32 pounds with slats, as against 61 pounds for the Composite bunk. Even closer to the War Department's heart, Coyle's bunk was cheaper. Coyle had bid unsuccessfully on an earlier contract, but he now believed that his bid had been too high and that he could provide his bunks galvanized without slats at $3.75 per copy in mass production. "I think that the Contract has been properly awarded [to Composite]," Meigs told the secretary of war, "But this bunk is so much lighter and . . . so much cheaper, that it deserves a trial to determine its capacity to bear the rough usage of the Barrack." He recommended that 200 be purchased and tested at designated posts. On September 14, 1874, the secretary granted approval[40]

Meigs described the bunk's parts and its dimensions as follows:

Side rails, 1-1/16 inch gas pipe
Uprights, 13/16 inch gas pipe
Head and foot rails, 1-1/16 inch gas pipe
Outside width, 31 inches
Extreme length of side rails, 79 inches
Upright, 23-3/4 inches
Weight with slats, 32 pounds

On September 18, 1874, Meigs directed his Philadelphia office to buy 200 bunks (without slats) from Coyle at $4.25 each (Coyle had said that he could not produce them as cheaply in lots of 200 as in quantities of 2,000), together with two sets of slats to be used as standards for manufacturing others. The Quartermaster Department would specify later where the bunks were to be sent for testing. "The points in which information is particualrly desired," Meigs explained, "are: Suitableness for use as Army Bunks; are they strong enough? Are they as good or better than the bunks made by the Composite Iron Company of New York? What improvements, if any, can be made on them?"[41]

In informing Coyle that the department would purchase 200 of his "galvanized Iron Bunks," Meigs warned of one needed improvement: "The couplings in the sample exhibited to me were not as stout as they should be; they should be made stronger." But he acknowledged that Coyle's sample had been quickly assembed only for review and was not meant to be the real thing.[42]

The Coyle bunks were distributed in December 1874 for testing at the following posts, each receiving 20:[43]

Fort Monroe, Virginia
Fort Adams, Rhode Island
Fort McHenry, Maryland
West Point, New York
Fort Whipple, Virginia
Fort Leavenworth, Kansas
Omaha Barracks, Nebraska
St. Louis Barracks, Missouri
Fort Columbus, New York City
Fort Snelling, Minnesota

Instructions from Meigs accompanying each shipment of the bunks explained his objectives in testing them for six months.[44]

The results of the trials exceeded all expectations. The Coyle bunk received universally lavish praise. From Fort Columbus, an officer pronounced them "superior to any of the kind heretofore in use for comfort, cleanliness, and economy of space."[45] At Fort Monroe, an artillery company tested four of the bunks for six months, after which its captain reported:

> I consider them to be more suitable for use in the Military Service than the Standard [probably the Composite] Bunk. The "Coyle" Bunk is lighter and more easily handled than the Standard Bunk; and when placed one upon the other the space between them is seven (7) inches greater than the Standard Bunk.[46]

Another officer at Fort Columbus said that he had "found them, without exception, the best Army Bunks I have ever seen. They are light, easily handled, can be packed in small compass, and kept absolutely clean without difficulty. In addition, they are far more comfortable for beds and can be used as seats without injury."[47] Yet another officer claimed:

> For the following reasons, they are in my opinion, the best bunks now in use. The slats cannot warp and bend out of shape, as those now generally in use do. The side rails keep the bedsack in place and prevent the occupant from sliding off the bedsack. They occupy less space in the squad-rooms. They are strong enough for all practical purposes, and at the same time light and easily handled, and they are easily kept clean.[48]

Meigs could not fail to be persuaded. In March 1876 he asked a board of officers to consider the Coyle bunk and its possible adoption for army use. The jury brought in a favorable verdict:

> The Board regards with much favor the "Coyle" Army bunk of the pattern shown in the papers submitted by the Acting Quartermaster-General. It is believed to be entirely suitable for Army use, and better in some respects than the bunks of other kinds heretofore furnished. It is thought, however, that a foot-board the same as the headboard should be added. With this improvement, the Board recommends that it be hereafter supplied the Army, provided it can be purchased as low or lower than the bunk made and furnished by the Composite Iron Company, of New York. The agent of the "Coyle" bunk submitted a new pattern of Army bunk which he regards as an improvement over that submitted by the Acting Quartermaster-General, but the Board, while recognizing its greater compactness and portability, does not regard it as favorably.[49]

On April 21, 1876, "the Coyle army iron gas-pipe bunk [was] admitted to competition in future contracts,"[50] with the changes recommended by the board of officers. The Army had finally found a soldier's bedstead that perfectly suited its desires. But it was too late, because the troops were unhappily supplied almost entirely with the earlier models. Future contracts were only to be incidental and for small quantities for many years, so the Coyle army bunk, the bunk the Army at last realized it really wanted, was destined never to become a common fixture in barracks. Although the detested wooden bunks were virtually extinct, the Army through its clumsy best efforts still forced its men to sleep on beds that it had to admit were inferior to what could have been furnished.

With Meigs probably regretting his hasty distribution of the Barrack and Composite bedsteads, the last acts of the army bunks' history before 1880 were played out by the persistent W. B. Johns. By the mid-1870s he had become a thoroughgoing nuisance to the Quartermaster Department. He claimed repeatedly that further payments were due him under the pre-Civil War agreement regarding his bunk. He also asserted that the Barrack, Composite, and Coyle bunks infringed on his patent; he even continued to invent new bedsteads, which he proposed to sell to the Army. But by 1875 he had so tried the quartermaster general's patience that even his offer to provide bunks at the remarkably low price of $3.00 was dismissed out of hand. As for Johns' demands for royalty payments, which he kept making through the 1880s, he was told repeatedly that he had no case.[51]

Notes

1. ARQMG 1867, H. Ex. Doc. 1, 40 Cong. 2 Sess., pt. 1, pp. 544-45.

2. Rufus Ingalls to D. H. Rucker, 20 Jan. 1868, QMConFile--Bunks, RG92.

3. "Proceedings of a Board convened for the Purpose of examining and reporting upon an iron bedstead invented by Bvt. Brig. Genl. H. D. Wallen . . . ," QMConFile--Bunks, RG92. I found no drawings or other record of this bedstead.

4. Meyers, Ten Years in the Ranks, 2, describes them as follows: "There were six iron double bedsteads in the room and a single bedstead for the corporal . . . . The double bedsteads were made so that one-half could be folded up over the other half when not in use." Apparently the same bunks were in the same room (a musician boys' training barrack) 10 years later in 1864, although the reporting source is unreliable on this particular point, since his account of Governors Island plagiarizes Meyers. Major Alson B. Ostrader, An Army Boy of the Sixties: A Story of the Plains (Yonkers-on-Hudson, NY: World Book Co., 1924), 14-15.

5. E. D. Townsend to Quartermaster General, Jan. 11, 1868, and Sacket to Friend McFerran, Jan. 8,. 1870, in QMConFile--Bunks, RG92. There are good drawings of this most impressive contraption in the same file, but they are not offered in this report because Snead's bunk was never seriously considered for adoption.

6. Lieut. Federick Fuger to Ingalls, Nov. 20, 1867, and numerous endorsements through Feb. 1868, QMConFile--Bunks, RG92. Rufus Ingalls, a native of Maine, graduated from West Point in 1843, served in the rifle regiment and the dragoons until joining the Quartermaster Department in 1848. He remained in the department until 1863, when he was appointed a brigadier general of volunteers. He earned brevets in both the Mexican and the Civil Wars. He returned to the Quartermster

Department in 1866, first as lieutenant colonel and deputy quartermaster general, later that year as colonel and assistant quartermaster general. He became quartermaster general February 23, 1882, succeeding D. H. Rucker, who had occupied the post 10 days, and retired July 1, 1883. Ingalls died January 15, 1893. Heitman, Historical Register, 1:562.

7. Ingalls to Meigs, Nov. 5, 1869; James A. Ekin to Meigs, Nov. 13, 1869; Note, J. D. Bingham (to Meigs?), Nov. 4, 1871; all in QMConFile--Bunks, RG92. The "Pattern bedstead" probably was the prototype "Barrack bunk" designed by Meigs.

8. C. W. Thomas to D. H. Rucker, Sept. 10, 1869, QMConFile--Bunks, RG92. The question apparently was referred to Washington, where it received no action. The plan and specifications appear in appendix D.

9. Risch, Quartermaster Support, 488; Billings, Report on Barracks and Hospitals, passim. The inventories were presented in ARQMG each year.

10. Risch, Quartermaster Support, 488.

11. This sketch, very rough and preliminary, is in QMConFile--Bunks, RG92. The printed final drawings of the Barrack bunk were the actual patterns for the bunks manufactured later. See appendix F.

12. Note, Meigs to Bingham and Ludington, Sept. 25, 1871, QMConFile--Bunks, RG92. Meigs saw some confusion stemming from General Order 22 of 1854, which substituted iron bedsteads for the wooden bunks, which par. 974 of the 1841 regulations addressed as fixtures of the barracks. That, he believed, should not apply to iron bedsteads, which were actually a part of the equipment of the garrison, not integral to the buildings, and therefore should be purchased with camp and garrison equipage funds. (It should be recalled that Jesup, in asking for appropriations for the Johns bunks in fiscal 1859, had put them with camp and garrison equipage, although his request was not granted. See chapter 6.) In any event the first large purchases of the

new bunks--both those in 1871 and the two big contracts for fiscal 1872 signed in November 1871, it would seem--were paid for from the barracks and quarters account. The reclassification probably took effect in fiscal 1873.

13. Meigs to Secretary of War, July 24, 1871, with endorsement, QMConFile--Bunks, RG92.

14. Chief Quartermaster, Military Division of the South, to Meigs, Nov. 21, 1871, QMConFile--Bunks, RG92. They were made by Snead of Louisville.

15. M. C. Miller to Meigs, Oct. 17, 1871, QMConFile--Bunks, RG92. This is discussed below. Where these bunks went is not recorded, but it is reasonable to believe that some or all of them went to the New York Harbor forts.

16. Copies of both notices and of the drawings are plentiful in QMConFile--Bunks, RG92. See also appendix G. Great caution should be exercised in basing reproductions on the various drawings in existence, for Composite kept revising its design in its advertisements. As if that were not enough, the bunks actually purchased, at least after November 1871, were not of the design advertised by the army. Appendix G sorts out the three Composite bunks and their chronology.

17. "Abstract of Bids . . . October 31, 1871," QMConFile--Bunks, RG92.

18. M. C. Miller to Meigs, Oct. 17, 1871, QMConFile--Bunks, RG92.

19. Copies of letters transmitting the contracts to the Chief Clerk of the Returns Office, Department of the Interior, Dec. 8 and 16, 1871, QMConFile--Bunks, RG92. The contracts are missing.

20. ARQMG 1871, 127. Note that the description of the revised Composite bunk is inaccurate, since the legs were no longer of gas pipe.

21. "Bunks Authorized by the Brks Bd during 1871," QMConFile--Bunks, RG92. This list goes in the order of the purchase contracts; I have reorganized it by bunk-type in the text. It does not include the 1,600 Miller bunks.

22. It should be noted here that A. Berle Clemensen, Historic Furnishing Study, Enlisted Men's Barracks, HB-21, Fort Davis National Historic Site (Denver: National Park Service, 1978), assumes that only Composite bunks were present at that site. But the large distribution to Texas suggests a full supply of Barrack bunks to all posts, including Fort Davis. HB-21, the barracks treated in the study, was one of only two in use at Fort Davis in 1871-72, and since bunks remained by regulation in barracks, the Barrack model would have continued in use in HB-21 until taken out of service. They may have been worn out within a few years, but that should be determined from the post's quartermaster records. It should be noted also that the Fort Davis study assumes that the Composite bunk can always be modeled on the company's "No. 9" drawing. The subject is more complex than that, as will be seen below. See also appendix G.

23. ARQMG 1872, 142.

24. B. J. Strong to Chief Quartermaster Department of Texas, Dec. 29, 1871, QMConFile--Bunks, RG92.

25. Capt. Samuel T. Ferris to Lieut. J. H. Sheelz, Dec. 11, 1871, and Snead & Co. to Chief Quartermaster Military Division of the South, Jan. 8, 1872, QMConFile--Bunks, RG92. See appendix F. This was a predictable and rather obvious design error, somewhat surprising for the man who had designed the dome on the U.S. Capitol.

26. Snead & Co. to Lieut. Col. James A. Ekin, June 8, 1872, QMConFile--Bunks, RG92. "Steel" is the word used in the letter, not "iron." It is likely that fittings and screws were of the former, and framing of the latter.

27. James A. Ekin to Quartermaster General, June 11, 1872, QMConFile--Bunks, RG92. The bolt question is addressed in appendix H, although the record is sketchy.

28. ARQMG 1872, 142. Compare this price with Composite's bid of $5.50.

29. ARQMG 1873, H. Ex. Doc. 1, 43 Cong. 1 Sess., pt. 1, p. 158; ARQMG 1874, 154, 160.

30. Chase to Meigs, Oct. 7, 1872, and Meigs to Chase, Oct. 10, 1872, QMConFile--Bunks, RG92. Although the company distributed flyers claiming that the new "No. 10" model was adopted by the War Department in 1873, that was not true. All bunks purchased from Composite from November 1871 to the end of the decade were the "No. 9" model, which the specification eventually adopted also required. The "No. 10" model did not appear in barracks until the 1880s, but it was the only model acquired during the 1880s. See appendix G.

31. Chase to Meigs, June 16, 1873, QMConFile--Bunks, RG92. In the same letter Chase added that the firm had received no complaints about the bunks it had supplied to the Army. This exchange might be the basis for the company's claim that the Army had adopted the "No. 10" model in 1873. Actually, it adopted only the name "Composite."

32. "Q. M. General's Notes Nov. 1, 1871," QMConFile--Bunks, RG92.

33. Gillis to Col. D. H. Rucker, Nov. 4, 1873, QMConFile--Bunks, RG92.

34. S. B. Holabird to Col. D. H. Rucker, Apr. 25, 1873, QMConFile--Bunks, RG92. The men there continued to use wooden bunks; why those were not cannibalized for slat stock was not mentioned.

35. Risch, Quartermaster Support, 488.

36. Report on Hygiene, xviii.

37. Ibid., passim. None of the 11 posts is in the national park system today. They were Fort Gratiot, Michigan; Fort Stockton, Texas (where, incidentally, the metal bunks were delivered without slats and there was not a tree for many miles with which to make them; this sparked the letter from Holabird identified in note 34, above); Santa Fe, New Mexico; Fort Wingate, New Mexico; Fort Fred Steele, Wyoming; Camp Hancock, Dakota; Fort Boise, Idaho; Sitka, Alaska; Camp Apache, Arizona; Rio Verde Indian Reservation, Arizona; and Camp Verde, Arizona.

38. Joseph R. Blaise, interview with the author, Springfield, Va., Oct. 30, 1981. Blaise, a member of the Pearl Harbor Survivors Association and a veteran of World War II in the Pacific, enlisted at Fort Totten in 1939 and later transferred to Hawaii, where he served first in the Coast Artillery, then in the Army Air Force. He said the guardhouse bunks were identical to one shown in prints of a set found some years ago at Fort Mifflin, Pennyslvania, and now owned by the National Park Service; Prints courtesy of NPS, Harpers Ferry Center. Incidentally, Blaise observed the bunks as a guard, not as a prisoner.

39. Drawing for patent 127,312, in QMConFile--Bunks, RG92. See appendix H.

40. Meigs to Secretary of War, Sept. 9, 1874, and endorsements, QMConFile--Bunks, RG92. This is the source for the descriptive information that follows. The lighter weight would significantly reduce shipping costs.

41. Meigs to Col. L. C. Easton, Sept. 19, 1873, QMConFile--Bunks, RG92.

42. Meigs to H. B. Coyle, Sept. 18, 1874, QMConFile--Bunks, RG92.

43. (Unsigned, QMG Office) to Col. L. C. Easton, Dec. 10, 1874, QMConFile--Bunks, RG92.

44. Meigs to "Sir," Dec. 10, 1874, QMConFile--Bunks, RG92. The Quartermaster Department also developed specifications for the bunk, probably prepared by Coyle. A handwritten copy in the QMConFile--Bunks, RG92, is dated "1874 Oct." and marked on the back as received Jan. 22, 1875. See appendix H.

45. Maj. C. E. A. Crofton to QMGen USA, Feb. 2, 1876, QMConFile--Bunks, RG92. It took much longer than six months for most of the reports to arrive.

46. Capt. James H. Piper to QMGen USA, Aug. 24, 1857, QMConFile--Bunks, RG92.

47. Lieut. C. S. Roberts to Post Adjutant, Ft. Columbus, Jan. 19, 1876, QMConFile--Bunks, RG92.

48. Lieut. William Auman to QMGen USA, Jan. 23, 1876, QMConFile--Bunks, RG92. Yet another example of the response: "Taken altogether, I consider that they possess every advantage over any bunk yet seen in use in the Army." Lieut. J. S. King to QMGen USA, Jan. 26, 1876, same file.

49. "Report of a board of officers reviewing the Coyle army bunk proposed for adoption, Philadelphia, Pa., March 16, 1876," QMConFile--Bunks, RG92. This report was also published in ARQMG 1876 (op. cit.), 225. I could find nothing further on the second bunk mentioned.

50. ARQMG 1876, 129. The specifications were printed in the following year's ARQMG. See appendix H for the bunk as tested and the bunk as finally adopted.

51. The correspondence generated by and to Johns and his lawyers is voluminous. For points raised here, see Johns to Rufus Ingalls, Aug. 16, 1875, and Meigs to Johns, Nov. 19, 1877, QMConFile--Bunks, RG92. The bunk offer referred to was for one closely resembling the Barrack pattern. Incidentally, if the Y-shaped feet were covered by the patent (not likely, or the lawyers would have made an issue of it), Johns may have had a point. They were probably copied by Meigs for the Barrack bunk (and probably also by Ingalls and Wallen for their designs), and subsequently by Composite for their mass production model. See appendix E.

10

THE EXPENSE OF PROVIDING THE ARMY WITH STOVES IS VERY GREAT (1866-1880)

Bunks were not the only subject troubling the Quartermaster Department after the Civil War. The Army's continued failure to establish a policy on heating for barracks and other buildings had become an expensive habit to support. Open fireplaces and poorly designed stoves were hazardous to the flammable buildings at most posts, and they were prodigious consumers of fuel. In 1866 Meigs reported that the Army burned 113,497 tons of bituminous coal and 86,808 tons of anthracite, for a total of 200,305 tons that had to be purchased on the open market and delivered to posts that year. He could not report the consumption of wood in 1866 but said that "by far the greater part" of it was cut by the troops rather than purchased by contract.[1] The fuel-supply burden remained high in the following years, even as the Army became smaller, as the issues of wood and coal for selected years show:

	Wood	Coal
1868.........	119,973 cords	32,425 tons
1870.........	125,762 cords	27,118 tons
1871.........	124,372 cords	28,678 tons
1872.........	115,995 cords	28,144 tons

If there was any brake on the Army's fuel consumption, it was that, without direction from above, departmental quartermasters were buying stoves on the civilian market in response to demands from the posts. As with the early purchases of iron bedsteads, there was no standard and no consistency from one place to another, and the quartermaster general had no idea of what was being purchased with his appropriated money. For an entire decade after the Civil War, the only serious effort by the Quartermaster Department to find standards for the heating of buildings was the trial of the "ventilating double fire-place" promoted by Dr. Billings. On the recommendation of a board of officers, in 1871 the department had 25 of them manufactured "for use and trial" at various posts. But the idea proved not as good in practice as on paper, and they were withdrawn from service after a year or two.[2]

In 1875, after watching the money spent on stoves increase each year and with no idea of what was being purchased or even how many of the stoves requested were replacements for fragile models broken in use, Meigs called a halt. On April 8 he directed

> that some general pattern of cooking and heating stoves and ranges should be adopted and the number to be supplied to officers and troops prescribed by regulation; that the stoves of no particular manufacturer should be adopted, but that general specifications of size and construction, of plain, substantial, and convenient heating and cooking stoves, adapted to the use of bituminous and anthracite coals, and wood, should be drawn up, published, and followed hereafter.

Ordering a board of officers to assemble in Omaha to implement that directive, Meigs explained to its president that he believed that the department was receiving "excessive requisitions" for stoves and wanted to put some limit on them. He also suggested that there probably was unnecessary loss from breakage of cast-iron stoves and that wrought iron might be more economical. "It should be borne in mind," he added, "that the expense of providing the Army with stoves is very great."[3]

By the end of the fiscal year the board had not yet reported. Meanwhile, Meigs investigated the history of the problem and discovered that it had been recognized for a long time. His predecessor had tried without success to get special appropriations for stoves and to establish a policy on their distribution. Jesup took his case to the secretary of war in 1857, arguing the necessity for stoves and for formulating a policy on them. Although his proposals would have saved money, he got no response.[4]

When the board finally reported in November 1875, the results proved to have been worth waiting for. They also demonstrated that a careful and systematic approach to a supply problem could be more productive than the hurried manner in which iron bedsteads had been adopted--a lesson not lost on the Quartermaster Department. The stoves designed by the board gave good service for many years and remained unmodified into the 1880s; the first change was only a minor technical alteration of the grate in one of them.

The board proposed a number of models of stoves for heating and for cooking, adapted to meet all ranges of need. The heating stoves were designated "Army cast-iron wood heater," numbers 1, 2, and 3; "Army wrought-iron wood heater," numbers 4 and 5; "Army cast-iron coal heater," numbers 6 and 7; and the "Army parlor heater." The cooking ranges were "Army cooking range," numbers 1 and 2.

The board also proposed a supply table. Each company was to get "two large stoves in dormitory, one large stove in each the mess-room and day-room, one small stove for each of the two rooms for non-commissioned officers, and one small stove for the library, and one cooking stove or range sufficient to cook its food," making a total of seven. The distribution of stoves in hospitals allowed some discretion to the surgeon and post commander, and one heating stove each was allowed for each guardhouse and "chapel, reading or schoolroom upon requisition approved by the commanding officer." With only minor technical amendments, the quartermster general accepted the board's report in whole, and it was made regulation by the secretary of war and promulgated in May 1876.[5]

On August 28, 1876 the Quartermaster Department solicited bids for the manufacture of 160 of the heating stoves (20 of each type) and 40 of the cooking ranges (also 20 of each type). Interestingly enough, the Ordnance Department of the Army was the low bidder on the cast-iron heaters, receiving a contract to produce 100 (20 each of numbers 1, 2, 3, 6, and 7) at Rock Island Arsenal, Illinois. Other contracts went to Asa Snyder and Company of Richmond, Virginia, for 60 heaters (20 each of numbers 4 and 5 and the parlor heater), and William Miller of Cincinnati for 40 ranges (20 each of numbers 1 and 2). The department later bought 72 more ranges (22 number 1 and 50 number 2) from Miller, and 75 more heaters (15 of each type) from Rock Island Arsenal. Most of the 235 heating stoves and 112 ranges had been distributed by late 1877, and Meigs avowed, "The success of these stoves and ranges in the Army appears to be well assured."[6]

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In 1878 the Army bought no cooking ranges because the previous year's purchases exceeded requisitions and the Quartermaster Department had a surplus on hand--which suggests that the Army had managed to supply itself well with ranges of some sorts before there was any definite policy on the subject. However, the Rock Island Arsenal produced 201 heating stoves (35 number 1, 31 number 2, 35 number 3, 50 number 6, and 50 number 7) that year, establishing itself as the Army's regular supplier.[7]

In June 1880 Meigs ordered 140 more stoves from Rock Island, to be delivered in fiscal 1881. But deliveries that year actually totaled 256 cast-iron heating stoves, with an additional 276 ordered for the following year.[8] As older nonstandard stoves wore out, they were replaced with the new army standard, and probably by the mid-1880s most barracks were furnished with general issue stoves of the model appropriate to each room.

While the establishment of the stove standards stopped waste in unregulated stove purchases, whether they reduced the fuel burden is questionable, as the following table of fuel issued the Army shows:[9]

	Wood	Coal
1877...........	138,099 cords	40,087 tons
1880...........	108,074 cords	33,277 tons
1881...........	120,288 cords	39,386 tons

The distribution of stoves accomplished something else. Where they replaced open fires, they transformed dim, smoky barracks into forbiddingly dark dungeons.

Notes

1. ARQMG 1866, H. Ex. Doc. 1, 39 Cong. 2 Sess., 59. The distribution of coal purchased is at least some clue to the relative proportions of anthracite and bituminous grates, stoves, furnaces, and boilers in the Army. Most of them were probably in coastal areas. I am uncertain whether the reported figures reflect fuel consumed at arsenals or on army ships, but I doubt that they do after 1866. The high consumption of coal that year _might_ include military railroads in the South. The fuel consumption table provided in the text is drawn from ARQMG 1868, 815; ARQMG 1870, H. Ex. Doc. 1, 41 Cong. 3 Sess., pt. 1, pp. 146-47; ARQMG 1871, 125; ARQMG 1872, 139.

2. This was discussed earlier. See Billings, _Report on Barracks and Hospitals_, vi-xiv; _Report on Hygiene_, lvii; M. I. Ludington to Meigs, Sept. 25, 1871, printed in ARQMG 1871, 139.

3. Ludington to Meigs, Aug. 14, 1875, in ARQMG 1875, H. Ex. Doc. 1, 44 Cong. 1 Sess., 250-51: Meigs to Col. J. C. Davis, May 6, 1857, and Meigs to Secretary of War, Apr. 8, 1875, ARQMG 1876, 267-68, 269.

4. Jesup to Secretary of War, Jan. 26, 1857, copy in ARQMG 1876, 269.

5. The publication was without drawings in ARQMG 1876, 261-65, and possibly a separate booklet. The 1876 publication is reproduced in appendix C. It was republished with illustrations in 1882 in U. S. War Department, Quartermaster General's Office, _Specifications for Means of Transporation, Paulins, Stoves & Ranges, and Lamps & Fixtures for Use in the U. S. Army_ (Washington: Government Printing Office, 1882). The drawings in appendix C are copies of those in the 1882 publication, from Don Rickey, Jr., and James W. Sheire, _The Cavalry Barracks, Fort Laramie, Furnishing Study_ (Washington: National Park Service, 1969).

6. ARQMG 1877, H. Ex. Doc. 1, 45 Cong. 2 Sess., pt. 1, p. 292.

7. ARQMG 1878, H. Ex. Doc. 1, 45 Cong. 3 Sess., pt. 2, p. 350.

8. ARQMG 1880, H. Ex. Doc. 1, 46 Cong. 3 Sess., pt. 2, p. 322; ARQMG 1881, H. Ex. Doc. 1, 47 Cong. 1 Sess., pt. 2, p. 225.

9. Derived from ARQMG 1877, 184-85; ARQMG 1880, 321; ARQMG 1881, 224.

11

TO MEET A WANT FELT IN THE ARMY

(1866-1880)

The unfortunate exercise that culminated in the adoption of the Coyle army bunk demonstrated to the Quartermaster Department the need for more thoughtful and systematic procedures for supplying the Army's material needs. The effort to develop standards for stoves showed how it could be done.

The department, like the nation, was headed anyway in the direction of standardization--and bureaucratization and central control. Before the 1870s most items purchased by the department met standards set forth in contracts by its purchasing officers, mostly in Philadelphia, and quality was ensured chiefly by inspection on delivery. But American industry had grown more mechanized and increasingly competitive. More firms around the country wanted part of the Army's business. To facilitate competitive procurement and at the same time insure consistent quality in goods purchased, after 1870 greater numbers of specifications were promulgated, to the extent that they became routine fixtures in the annual reports of the quartermaster general. That procedure made it possible for firms as widely separated as New York and Louisville to offer to supply, for instance, the same bunks.

For the first time in many years, new specifications for the army blanket were issued in 1873 and amended in 1876; in both cases they insured that blankets, whether bought in New York or in California, would be identical when delivered.[1] The fact that each specification was "adopted by the Secretary of War" gave it the force almost of law.

Beginning in 1875, the Quartermaster Department consolidated all existing specifications for items of procurement,[2] a systematic procedure that would eventually lead to official supply manuals. The specifications compiled included not only those promulgated in Washington, but a substantial number that bore the notation, "Furnished from Philadelphia

Depot by Col. Easton March 2nd, 1875." The last trace of Callender Irvine's administrative influence thereby evaporated, for the specifications for even the smallest items were now controlled in Washington and finally became a matter of official record. It must be supposed, however, that a large share of the specifications transmitted by Easton had been used in contracts at Philadelphia for many years.

The specifications compiled in 1875 and thereafter reflected another interesting development--the number of separately identifiable contents of soldiers' barracks was on the increase. Those transmitted from Philadelphia were for traditional things: pots, iron; kettles, camp; books, company order; books, company descriptive; books, company morning report; books, company clothing account; blankets, rubber. But the next year the Army published specifications for things formerly regarded as mundane, or not previously supplied: stencil sets, scrubbing brushes, iron bunks, brooms and brushes, and so on. The Army was now providing more to its men, and it was exercising ever greater control over what they got as well as what they did with it.

Specifications continued to reflect expanding furniture inventories. In 1878 specifications appeared for barrack chairs, a new item of supply. The next year they showed growing attention to the quality of merchandise issued in quarters. Along with specifictions for the new pillow sacks, the Quartermster Department revised long-standing requirements for old things like bedsacks and mosquito netting.

By that time the Army's policy on furnishings for barracks, which for almost a century had been little more than simple concurrence with customary practice, was beginning to evolve. In the future, practice would be governed by policy, and the systematic development of policy would itself become customary. That merely reflected a more fundamental evolution in the military establishment. An Army that had long outfitted itself with handicrafts was, like the nation it served, becoming industrialized.

With the bed central to the soldier's accommodations, items of bedding continued to be important. Throughout the 1870s the two basic parts of the soldier's bedding remained the 5-pound gray army blanket, issued one each in the first and third years of enlistment, and the bedsack. But the introduction of the single bedsteads worked remarkable changes on the latter, an old army institution. Manufacture of double bedsacks ceased in 1878, and in fiscal 1879 only 106 of them were issued, as compared with 6,504 singles.[3] The same thing happened with single and double mosquito bars.

In 1875 the growing attention the Army paid to the men's sleeping arrangements led to this announcement:

> To meet a want felt in the Army, the Secretary of War, on 18th September 1875, on recommendation of the Acting Quartermaster General, authorized issue of pillow-sacks to the troops. They are made from a very large stock of shelter-tents in store. Their issue has made it necessary to increase the monthly allowance of straw to enlisted men [from 12 to 16 pounds per man].[4]

It was not much--especially when that same year the Surgeon General's Office recommended that wire mattresses, hair pillows, and sheets replace the bedsacks[5]--but it was a step in the right direction. Issue of more civilized forms of bedding finally began in limited amounts in 1884.[6]

Other things arrived in army buildings in the 1870s. A standard padlock was adopted in October 1873, and within a year Meigs reported the distribution of 1,122 to various posts requesting them. It was, he said, "strong, durable, and secure," and was called the "Scandinavian, or jail" padlock.[7]

In 1875 came the Army's first official footlocker. The Quartermaster Department was directed "to provide in all permanent barracks a box or locker 24 inches in length, 12 inches in breadth, and 10 inches in height, for each soldier to store his dress uniform and extra clothing; the boxes to be permanent fixtures of the barracks. They are being supplied upon the requisition of the proper officers." During fiscal 1875 a total of 568 of them were supplied to various posts, but the restriction to permanent barracks retarded general issue to the whole Army.[8]

The first general issue of an item of real furniture other than bedsteads started during fiscal 1878. That was the barrack chair. Meigs reported that because his department was under

> instructions to provide chairs for use in barracks by soldiers, who have heretofore been accustomed to sit on benches or boxes or their beds, arrangements have been made to manufacture a sufficient supply for the barracks and posts east of the Rocky Mountains, at the military prison, at a cost of $1 for each chair. To supply the distant posts beyond the Rocky Mountains contracts have been made on the Pacific coast, at $1.66-2/3 each chair.
>
> The chair adopted as a model is a strong, substantial wooden chair, with wooden molded seat. It is easy, durable, and cheap, and will add much to the comfort of troops, and at a very moderate expenditure.[9]

As with other new items of supply after 1875, detailed specifications and a design for the chairs were promulgated, so that any one was identical to any other. The supply table was also established by general order. The Quartermaster Department would provide one chair to every noncommissioned officer above the corporal, and six for every 12 enlisted men of all other grades. During fiscal 1878 the department ordered 10,912 from the U. S. Military Prison at Fort Leavenworth, Kansas, and an additional 2,000 chairs for the Military Division of the Pacific were purchased by contract in California. The next fiscal year the prison furnished 7,777 more chairs at 95-1/2 cents each and in fiscal 1880 an additional 1,915.[10]

At the very end of the 1870s the distribution of reading materials to the troops began. In 1877 Secretary of War George McCrary not only initiated the actions that resulted in the establishment of post schools and libraries (first authorized in 1866) but expressed himself as well on what the men should read. In his opinion, all posts should be regularly supplied with volumes of the classics and the best current literature, including newspapers and magazines, "and these publications should be regularly sent to each company in the Army, whether at regular and permanent posts or not." As a result, by fiscal 1880 the Quartermaster Department was spending about $6,000 a year to supply post schools and libraries with books and periodicals.[11]

Because the majority of the Army's buildings were of wood, they were subject to damage or destruction from fire. Barracks especially were literal tinderboxes, crammed as they were with wooden fixtures, straw bedding, and cloth goods, heated by fireplaces and stoves installed by amateurs, and lit by candles or unauthorized lamps that sometimes seemed designed to explode. In the years following the Civil War the losses from fires at military posts increased, as did official worries about the problem--the fire danger was actually the principal reason that sentries were posted. Large fire engines of various types began to receive wide distribution, but they did not meet the need. It was desirable that small fires be prevented from growing into large ones, and for that purpose buckets and boxes of water and sand were routine fixtures in all army buildings, in particular those with stoves or fireplaces. But fires often began high on walls or in ceilings or attic spaces where faulty flues were most likely to ignite them. Such places were difficult to reach quickly, so some means of throwing water onto elevated fires was required.

American industry came to the rescue with the invention of soda-acid fire extinguishers. Beginning at least as early as fiscal 1870, possibly the year before, the Quartermaster Department distributed the Babcock patent fire extinguisher, manufactured in Massachusetts. At first the numbers were limited, but Meigs reported issuing 89 ("more" than the previous year) to 23 locations in fiscal 1871, including three to Fort Laramie, Wyoming. Through March 1873 only the Babcock product was issued;

after that date, others--identical to the original model, since they were of the Babcock patent and made under license--were bought from the Champion Fire-Extinguisher Company of Louisville, Kentucky. A total of 27 were distributed to posts in fiscal 1873.[12]

The Babcock fire extinguisher was a copper-jacketed model that, except for its exterior plumbing, closely resembled modern soda-acid extinguishers. But it was not ideally suited to the Army's need, because it was expensive and complicated to use, and it was not foolproof. A fire at Fort Buford in subzero temperatures in January 1871 burned out of control because the extinguishers were frozen. In addition, Babcock was a difficult company to deal with. The result was that up to 1873 fire extinguishers remained thinly scattered around the Army.[13] At a post where there were only a few, they most likely would be stationed in guardrooms, since the guard of the day was supposed to be the initial fire-fighting force, especially at night. Others would be located around the post in accessible and well-advertised locations, especially near storage buildings.

In 1873 the firm of Hildreth and Johnson brought to Meigs' attention the "Johnson Forcible Hand-Pump," also advertised as the "fire assassinator." The device was simplicity itself, resembling nothing so much as a bicycle pump mounted in a wooden bucket, capable of shooting a stream of water 40 feet into the air. The company had managed to obtain the endorsement of Boston's fire marshal--who claimed that if one had been on hand in Mrs. O'Leary's barn, there would have been no Chicago fire--and Meigs was greatly impressed. He ordered a substantial number of them for testing, and by December 1873 had distributed them, together with instruction cards, to a number of posts, including Fort Davis, Texas.[14]

By that time Meigs apparently believed that he had found the perfect fire extinguisher, but he ordered technical trials anyway the next spring. The results of those tests showed that the "Johnson Hand Force-Pump," as it was called occasionally, "is quite as efficient in extinguishing flames as the chemical fire-extinguisher." It was adopted for use, and 214 were distributed in 1874, and an additional 756 in 1875. By late 1876 Meigs could announce that nearly all posts held a supply of the chemical extinguishers, and literally all had the Johnson pumps. He asserted that the latter seemed to have saved more property from fire than the others, which cost six times as much. Oddly enough, it was only after the Johnson pump was completely distributed that its use was approved by the secretary of war.[15]

Notes

1. The details of specifications are discussed below, and the texts presented in the appendixes. ARQMG 1872, 141-42, and ARQMG 1877, 269, convey the new blanket specifications.

2. They appear in ROQMG, Miscellaneous Specifications, 1875-1884, RG92.

3. ARQMG 1897, H. Ex. Doc. 1, 46 Cong. 2 Sess., pt. 2, p. 281.

4. ARQMG 1876, 126.

5. Report on Hygiene, xviii.

6. Chappell, "Barracks Furnishings," 26.

7. ARQMG 1874, 187. This is the one new item of the period for which no specifications were issued; it was probably the product of one company, but there is little in the records on the subject.

8. ARQMG 1875, 197, 265. Boxes, chests, and lockers had occasionally been mentioned in the field in earlier years, but apparently they had no official standing as items of supply. Any in existence would have been made locally. Also, apparently no drawings of the new footlocker were prepared.

9. ARQMG 1878, 262. The design was replaced in the 1880s with one featuring a leather seat.

10. Ibid., 325-26; ARQMG 1879, 229; ARQMG 1880, 289. The establishment of the prison in the early 1870s was itself a significant reform in the treatment of soldiers under sentence of confinement. The institution still exists at Fort Leavenworth, although with changes of name and governance.

11. ARSecWar 1877, H. Ex. Doc. 1, 45 Cong. 2 Sess., pt. 1, p. vii; ARQMG 1880, 316.

12. ARQMG 1871, 125, 210-11; ARQMG 1873, 174-75.

13. ARQMG 1871, 125; F. W. Farwell to Meigs, Mar. 8, 1871, and accompanying freight receipts, QMConFile--Babcock, RG92. In 1871 the company somehow greatly offended Meigs by sending him two copies of an improved fire extinguisher without invitation or notice. For the fire extinguishers, see appendix L.

14. A substantial file on the Johnson pump (for which the Army never settled on a single name) rests in ROQMG, Correspondence Relating to Army Wagons, Annual Estimates, Purchase of Force Pumps and Padlocks, 1873, RG92. Advertising accompanies Hildreth and Johnson to M. I. Ludington, Sept. 26, 1873. Unfortunately, it seems that no copies of the instruction card have survived. That is regretable, as they were probably fixed to walls at pump locations. Fort Davis, according to a list dated Dec. 8, 1873, received 12 cards--possibly implying that it received 12 pumps, although the record is not clear.

15. ARQMG 1873, 118; ARQMG 1874, 123, 187; ARQMG 1875, 251; ARQMG 1876, 131, 237. The purpose of the pumps was officially "in controlling and suppressing fires in their incipiency." In other words, small extinguishers attacked only small fires. Once a blaze got out of hand, heavier engines were required.

12

FIAT LUX

(1866-1880)

Since the Revolution, the only authorized source of illumination in the barracks of the United States Army had been candles. And even they remained, by regulation, in insufficient supply. The quarters were dim enough to begin with, but after stoves generally replaced open fireplaces, conditions were even worse. One observer in the 1870s said that the few scattered candles in barracks sufficed only "to render darkness visible." In 1880 an officer wrote that if the general of the army wished to know why enlisted men deserted in great numbers, "he has only to look into our dungeon barracks with the men huddled around the flickering flame of one or two candles. How many evenings would he or any officer spend in such a hole?"[1]

The need for better light was as great as that for better beds. But this time American technology exceeded its own abilities. By the 1850s and 1860s new lamps were piling up in the Patent Office as new stoves had in earlier years. As they proliferated on the civilian market, inevitably some began to appear in barracks, hospitals, and guardrooms, occasionally with devastating results. The Army feared fire as much as it feared any human enemy, and in 1869 it issued an order outlawing the use of lamps burning volatile oils in all army structures. The only alternative it considered (but did not adopt) was for the Subsistence Department to add to the ration extra candles "of extraordinary size," and to supply lard oil and lanterns for guardrooms.[2]

The 1869 order caused a sotrm of controversy in the Army. It also was ambiguous, as officers were uncertain about whether it applied to their own quarters. So the following year the secretary of war directed the issue of General Order 17, which only confused things more, and finally General Order 42, which prohibited the issue or the use of "all varieties of Coal Oils" for illumination at military posts "except by commissioned officers in their quarters."[3]

But the subject would not rest, since the men wanted better lighting, and their officers supported them. Throughout the 1870s officers complained about the dimness of the barracks, repeatedly asked to be allowed to purchase lamps with company funds, or reported the successful and safe use of such lamps as were permissable--although what those might be, except for lard-oil types, was always in doubt. At Willets Point, New York, for instance, a company commander reported that his men were using the "Cleveland Safety Lamp (Metal)" burning "Astral" oil, but no one knew whether stabilized distillates like that should be allowed.[4]

The Subsistence and Quartermaster Departments both maintained a considerable interest in the possible adoption of lamps, chiefly because they were bombarded with complaints and requisitions from the officers. But they were unable to overcome their own fears that lamps were inherently dangerous. At the request of the commissary general of subsistence, in 1872 and 1873 the Corps of Engineers performed tests on a number of lamps burning a variety of fuels. Their technical report pronounced some of them safe and suitable of army use, but afterwards "and in accordance with the views of the Commissary General," the secretary of war declined to alter the policy promulgated in 1870.[5]

The effect of such a policy, however, was the same as the absence of policy on stoves. It might seem that lamps were forbidden, but there was no flat prohibition applicable to all lamps, at least not to those not using "mineral oil," which was how the Army termed distillate hydrocarbons. Lamps appeared here and there in defiance of regulations, and the pressure from officers and men mounted steadily. In 1877 the Subsistence Department felt it must review the entire question and concluded that some effort should be made to determine whether there was a safe lamp for the Army; the safety of those used without authorization certainly could not be guaranteed.[6]

The secretary of war succumbed the following year, appointing a board of officers to consider the lamp question. The officers had little difficulty in arriving at the conclusion that some better way of lighting barracks was needed to replace the candles. The standard issue of adamantine candles, they pointed out, gave the average company about 15 pounds per month, or three candles per day to light the orderly room, squad rooms, mess room, and kitchen--certainly not enough, especially since the open fireplaces were mostly gone. In 1879 the board recommended the adoption of lamps. The secretary of war concurred, and directed the Quartermaster Department to conduct tests to develop lamps suitable for the barracks. After three types available on the civilian market were given highly technical evaluations, the department selected a brass lamp from the Manhattan Brass Company, adopting it in two styles--a two-lamp pendant model, and a single-lamp bracket type. Appropriations were requested and granted by the Congress February 24, 1881, in order to begin distribution of the new lamps in fiscal 1882. General Order 50 of May 24, 1881, transferred responsibility for the supply of lamps and fuel from the Subsistence to the Quartermaster Department and set forth regulations governing the distribution of lamps to officers and men.[7]

The transfer of the supply of lighting from the Subsistence to the Quartermaster Department suggests that, until 1881, it was the belief of the Army that while the men might require some illumination, barracks and hospitals did not. It can therefore be said that in a sense lighting was not part of the furniture of barracks until after that date.

The Quartermaster Department, as it had with iron bedsteads, footlockers, and chairs, accepted this new burden with bureaucratic grace. The new lamps, Meigs reported, would cost the Army about $2,500 per year more than candles, but the cost was probably justified by the fact that each lamp gave off the light of 16 candles, to the benefit of the troops. "The men," he suggested, "being able to read without injury to their eyes, [will] spend more time in rational amusements and less time at the sutler store, at the grog-shops, and in the guardhouse."[8]

Perhaps he was correct. When it became known that, at long last, lamps would be provided in barracks, one enlisted soldier penned:

So if "fiat lux" the order is,
And candles are shown the door,
Round the bright kerosene
Twenty men will be seen,
To one at the trader's store.[9]

Notes

1. Risch, Quartermaster Support, 489; Foner, United States Soldier Between Wars, 18 (quotations).

2. General Order 58, 1869, and draft Commissary Department Circular dated Oct. 1869, in RAGO, Letters Received (Main Series, 1861-70), File 214 E 1868, Correspondence Relating to the Use of Oil for Illumination at Army Posts, 1868-77, NA microcopy M-619, Roll 621, RG92, cited hereafter as AGO Oil File.

3. "Memorandum as to use of Mineral Oil for illuminating purposes at Military Posts (1877)," AGO Oil File, RG94. Terminology, incidentally, is very confusing in the early history of this subject, because many terms that soon became generic, like "kerosene" and "coal-oil," were originally brand names.

4. Capt. A. McKenzie to Post Adjutant, Apr. 28, 1873, AGO Oil File, RG94. Astral Oil was made by the Oil House of Chas. Pratt, New York, and was a petroleum product with claims to safety. The AGO Oil File has a large number of the company's advertisements and technical claims along with those of many other fuel and lamp producers.

5. "Memorandum as to use of Mineral Oil . . . (1877)," AGO Oil File, RG94.

6. Ibid.

7. ARQMG 1881, 12-13, 225-26; Risch, Quartermaster Support, 489, summarizes the subject, as does Chappell, "Barracks Furnishings." The drawings and specifications for the lamps are not presented in this report because they did not come into being until after 1880.

8. ARQMG 1881, 12-13.

9. Quoted in Foner, United States Soldier Between Wars, 78.

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PART III

ARMY REGULATIONS
(1800-1880)

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13

EVERY ROOM OCCUPIED AS BARRACKS

(1800-1812)

On April 28, 1801, Secretary of War Henry Dearborn issued "Regulations [t]o be observed in the allowance of Barracks or Quarters to the Officers of the Army, and in the delivery and distribution of Fuel and Straw to the garrisons on the sea coast and recruiting parties."[1] As the title implies, those were not regulations for barracks, and indeed it does not appear that the War Department believed itself conjoined to provide barracks for enlisted men at all; quarters allowances were set forth only for officers.

On the same day Dearborn also promulgated "Regulations Respecting certain Supplies and Objects of special and extra Expense."[2] They established the limits of army supply and allowed the six categories of supplies that the Army afforded itself to be provided by subsistence contractors in the absence of an officer of the Quartermaster Department:

> The several Contractors, besides rations including ardent spirits and vinegar, shall only provide and furnish Quarters, Transportation, Forage, Fuel, Straw and Stationery to recruiting parties where there is no appropriate officer of the Quarter Master General's Department to furnish the same. The quarters intended, are those of a temporary kind. The power to provide them shall not extend to the building or repairing of barracks. In what they furnish, they shall govern themselves exclusively by the regulations which have been established by law or by the War Department, and in cases to which no regulations apply, by the orders of the particular commanding officer.
>
> No repairs shall be made to any barracks or buildings which shall incur a disbursement of money exceeding fifty dollars, but by an order of the Secretary of War.[3]

Before 1812, therefore, the Army's regulations did not require that its men be housed in barracks, except at "permanent" posts, few of which it possessed. Instead, most of the Army was regarded as in the field, and outfitted accordingly. It was revealed in 1812 that the equipage supplied to the men for field service included tents, iron kettles, and tin pans. So the pattern established during the Revolution remained in force up to 1812: The men lived in tents in the summers and in huts during the winters.

In ratifying that custom, the 1801 regulations on the issue of firewood reveal inadvertently that the men's huts were assumed to house groups of eight, as had those at New Windsor two decades before. Fuel was issued to enlisted men from the first of October through the first of April as follows:

> To every room occupied as barracks by eight non-commissioned officers, musicians and privates, one cord per month.
>
> To a garrison barrack guard, half a cord per month.
>
> To the sick in hospital, the allowance of wood is to be regulated by the surgeon.

Those allowances were cut in half the rest of the year. In addition, they could be reduced or increased by the commanding general "under special circumstances."[4] The only change in fuel allowances before 1812 came May 1, 1806, when the secretary authorized additional fuel at posts, garrisons, and recruiting rendezvous north of the 39th parallel:

> To every room occupied by eight men, half a cord per month.
>
> To a garrison or quarter guard, half a cord per month.[5]

The 1801 regulations on straw suggest that the two-man palliasse, or bedsack, was also accepted as customary--but probably only in buildings, or winter quarters, as in later years they were not issued officially except in garrison. From 1801 to 1812, the following was the straw allowance:

> 1. One truss of straw weighing thirty six pounds, is allowed for each palliass for two men. At the expiration of sixteen days, each palliass is to be refreshed with eight pounds. At the expiration of thirty two days, the whole straw is to be removed, and a fresh bedding of one truss to be furnished, and so on, every succeeding period of sixteen and thirty two days.
>
> 2. The same quantity of straw is allowed for servants or batmen not soldiers, and for washer-women attached to each company in the proportion of one washer-woman to every seventeen non-commissioned officers and privates.
>
> 3. The straw is to be changed for the sick in the hospital as often as may be deemed necessary: this necessity to be determined by the surgeon, or surgeon's mate, in the absence of the surgeon.[6]

The entire purpose of the early regulations was to control the expenditure of public money. Therefore, the issue of fuel and straw was tightly controlled. They could be drawn only during the month they were to be used, and measured according to the number of men for which they were requisitioned, with reductions for men not present. There was also ample provision of otherwise reducing quantities.[7]

With the Army not feeling itself called upon to provide barracks for most of its men, little about the interior arrangements of the buildings can be derived from the regulations in effect before 1812. Some things, however, can be inferred. The common soldier hut was probably little changed from the time of the Revolution--many of the officers, after all, were veterans of that war--except that at forts they would have been built in series, with common walls, and against the stockades. The typical hut was probably built of logs or puncheons set in trenches.

Roofing, since the straw issue was a difficult item of supply on the frontier, probably was either brush and mud, or rough boards. Quartermasters supplied hand tools for the construction of winter quarters, if tools were available. Since the straw allowance (when actually met) was generous, any bunks or palliasses would have been large or deep. On everything else, the regulations were silent.

A few contents of the huts can be surmised from military custom. The issue of blankets to soldiers had been traditional since ancient times. Each man had one blanket--two men shared two blankets--which in this period was usually wool, sometimes cotton, white, with a blue stripe near each end, and by 1808 three 5-inch points (blue) at one end, with the nap raised on one side.[8] The blankets were lighter than those of later years, weighed 3 to 3½ pounds each, measured 4 to 4½ by 6 feet, and probably soon became filthy and then disintegrated rapidly in field service.

Other contents would have been a few candles, which were supposed to be among the undependable supplies of rations, and kettles and (it can be guessed) a few pans from the camp and garrison equipage. That much the Army would furnish, but probably no more.

The quarters were heated with open fireplaces, probably built annually of mud and sticks, and intended for cooking as well as heating. The presence of hooks, cranes, and possibly trivets or spiders must also be supposed, along with hatchets and boxes for firewood, but again the regulations were silent.

The only other attempts at governance of barracks contents before 1812 came in the rare decisions to erect "permanent" quarters. Evidently the War Department believed that it did have an obligation to provide barracks at permanent posts, as witnessed in Dearborn's instructions on the construction of Fort Detroit in 1815:

> But, if brick cannot be made in the vicinity of the Fort, other materials should be procured . . . for erecting two

> barracks, each sixty two feet in length, twenty in width, and one and a half story in heighth; each barrack to be divided into four rooms, exclusive of the half story, which should be occupied for lodging rooms. Each lower room should have a large fire place, with a closet on one side, and a stair way on the other, to ascend to the lodging rooms; and should also have two windows of twenty squares of 7 by 9 glass each. To each upper room there should be one lutheran [luthern] window of twelve squares of like glass. The walls of the half story should not exceed 3-1/2 feet in heighth.[9]

It can be inferred from Dearborn's orders that at permanent posts men lived in larger groups and slept in lofts--probably without bunks--and that the Army would, employing troop labor, afford a certain degree of comfort to the soldiers. But besides the benches and tables that they must build for themselves (not mentioned), the furniture that the men would receive from the Army would remain only their blankets, candles, and camp and garrison equipage.

Dearborn also proposed the erection of a guardhouse "of one story, and about 15 feet square. The walls of the guard house should be built of square timber of nine inches thickness."[10] What that structure would contain, if anything, is open to speculation.

But few men of the Army lived at places like Detroit before 1812. For the rest, the closest to a War Department policy on housing was Dearborn's declaration that it was not "useful or expedient to construct expensive works for our interior military posts . . . ." He required that frontier posts be simple stockades 120 feet square, with a pair of blockhouses on opposite corners, and containing the simplest quarters and storehouses.[11] That the winter hut persisted was because it was traditional and necessary, not because it was a subject of regulation.

Notes

1. Printed in 1808 Regulations, 44-48.

2. Ibid., 49-50.

3. Ibid., 49.

4. Ibid., 44-45.

5. Ibid., 48-49.

6. Ibid., 46.

7. Ibid., 47-48.

8. Blankets are discussed separately below. This summary description is based on contracts let in 1808 and 1811, in QMC on File--Blankets, RG92. The appearance of blankets was not governed by regulations, apparently, until the 1860s.

9. Dearborn to Commanding Officer at Detroit, Aug. 5, 1805, quoted in Prucha, Sword of the Republic, 173-74.

10. Ibid., 174.

11. Dearborn to Gen. James Wilkinson, June 28, 1804, quoted in ibid., 173.

14

ANY BUILDING OCCUPIED BY TROOPS AS A BARRACK

(1812-1818)

In 1812 Congress and the War Department overhauled the general regulations of the Army, publishing the revision the following year.[1] They were a considerably more detailed volume of rules than had existed before, and for the first time in its history the Army formally provided for housing for the enlisted men: "To twelve non-commissioned officers, musicians, or privates, one room, or (in the summer) a kitchen."[2] That also reflected abandonment of the New Windsor precedent; now the Army supplied its soldiers in groups of six and housed them in dozens. It is reasonable to suppose that that reflected actual construction practices on the frontier, since a combination of influences made 12-man rooms more practical than eight-man quarters. In addition, the new regulations revealed a concerted effort to reduce expenses. Issuing the same quantities of firewood to 12 men as formerly had gone to eight would produce a significant savings.

Even though quarters were built by the men, using tools lent for the purpose, they remained public property. The soldiers and their officers were enjoined to take care of them:

> When any building occupied by troops as a barrack shall have been left by them in a filthy state, or shall have suffered injury by them, the Quartermaster of the post or of the party succeeding to them, shall, in the one case, have the quarters cleansed, and in the other repaired; and the expense of doing so shall be deducted from the pay of the officers commanding the party which immediately preceded in the occupation of the buildings, so cleansed and repaired.[3]

The chief purpose of the regulations remained the control of public expenditures. "Straw for soldiers' bedding" was one of only six categories of articles that quartermasters were allowed to purchase. The others were forage; fuel; stationery; horses, carts, wagons, and boats; and boards, nails, and other materials to build or repair barracks, hospitals, and bridges.[4] To contain expenses, the issue of fuel and straw was controlled rigourously:

> Requisitions for fuel or straw must state the number and rank of the officers, the number of non-commissioned officers and privates, servants, batmen, and washerwomen, for whom it may be demanded, and certified by the commandant of the regiment, garrison, or recruiting rendezvous.
>
> No fuel or straw shall be drawn for officers, or for soldiers, whilst on furlough; nor any allowance made to them for the same.[5]

Wood for fuel was issued according to the number of kitchens "or room occupied for cooking," which when compared with the quarters allowance suggests that the men cooked in their quarters in the winters. The fuel allowance was one cord per month in the summer in the north, and all year south of the Ohio River, and one and one-half cords per month in the north during the winter. It could be drawn only in the month it was to be used.[6]

Regarding other items furnished to the men, Congress on January 11, 1812 showed its diligent economy by fixing the ration of candles at 1½ pounds and of soap at 4 pounds, each to every 100 rations.[7] That small allowance remained the basic rule for many decades thereafter.

The palliasse disappeared from the regulations without mention of a replacement, although it is known that the word "bedsack" was in use by 1811 and that the Purchasing Department was manufacturing bedsacks before 1817. But according to the regulations, straw alone was issued for bedding, at the rate of one truss of 36 pounds for every two men, refreshed with an additional 8 pounds after 16 days, then replaced with a new truss after 32 days, and so on--except for the vanished palliasse, the same as before, with some other minor changes in wording.[8]

Camp and garrison equipage for the men was enumerated for the first time in the new regulations, but only by indirection in the rules of governing provision of transportation: "To each company or detachment of 100 men, shall be allowed one four-horse waggon and team, or 2 two-horse waggons and teams, for the conveyance of baggage, and camp equipage consisting of one common tent, one iron kettle, and two tin pans, for every six men."[9]

Accordingly, if the regulations are to be a guide, during the years after 1812 the men were housed in the summers in six-man tents, each company being allowed a kitchen structure of some sort. In the winters they hutted up in groups of a dozen, furnishing themselves with wooden objects (none of which the regulations acknowledged) as circumstances permitted. Each barrack would include in its furnishings for 12 soldiers two iron kettles and four tin pans for food that could be cooked in the room's primitive fireplace. No more than 1½ pounds of soft candles would be available to light the room every eight days, less those required for guardrooms and other spaces. And the men were supposed to keep their quarters clean, at least when they vacated them.

Notes

1. 1813 Regulations.
2. Ibid., 205.
3. Ibid., 203-04.
4. Ibid., 203.
5. Ibid., 208-09.
6. Ibid., 205-07.
7. Ibid., 75.
8. Ibid., 208.
9. Ibid., 209.

15

STRAW IS NOT A PERSONAL ALLOWANCE

(1819-1838)

The general regulations issued in 1812 and 1813 governed the Army until March 2, 1821. The only official action during that period that affected the appearance of barracks contents occurred in January 1821, when the secretary of war approved the suggestion of Callender Irvine that thereafter each army blanket be marked in the center "with the letters U.S. with indelible liquid." The purpose was to discourage theft and sale of the blankets by soldiers, and from that time on the national initials were distinctive on army blankets.[1]

The new general regulations adopted in 1821 were the work of Winfield Scott, who evidenced in them not only respect for War Department frugality, but his own experience and opinions on such matters as sanitation. For example, he went beyond requiring that field camps be kept free of filth (a virtue in which armies traditionally fell short) to demand that the soldiers themselves be tidy in their persons. Uniforms were to be kept clean and underwear was to be changed three times a week in midsummer and twice a week (Sundays and Thursdays) the rest of the year. The men should wash their hands and faces daily after fatigue, "shave themselves (if necessary), and brush or comb their heads."[2]

Regarding barracks, units and their quarters were to be inspected twice a week by various officers, who in addition were required to make daily "visits" to quarters and "frequent general visits, in the course of the month" to hospitals, guardhouses, and other buildings.[3] The purpose of the inspections and visitations was to ensure that things were arranged as the regulations said they should be.

The "chambers" housing the men were to be numbered according to the numbers of the units occupying them, "and the numbers inscribed on the outer doors." In addition, the "name of each soldier will be labelled on his bunk, in the place most apparent . . . ." The regulations said that the quarters should contain arm racks, which were to be used in prescribed fashion: "Fire arms will be habitually placed, (the cock let down, and the bayonet in its scabbard) in the arm-racks; the accoutrements suspended over the firelocks; swords hung by the belts, on pegs."[4]

The bunks were by indirection to have shelves, a lower to hold knapsacks and an upper for clothing, folded in prescribed fashion. In addition, "shoes, after being well cleaned and tied together, soles out [were to be] hung on a peg over the bolster." The men were specifically forbidden from putting "any article whatever under the bedding."[5]

The regulations also recognized the presence in barracks of other, miscellaneous contents:

> Cooking and table utensils, after being well cleaned, will be arranged in closets or recesses. Blacking, whiting, and brushes, will be placed as much out of sight as practicable; the whiting pot well covered.
>
> When there is a necessity of keeping a supply of fuel in the chambers, it will be put in boxes near the fire places.
>
> Bread will be placed on shelves prepared for the purpose. Fresh meat hung out at the back windows on hooks--but not in the sun.[6]

The regulations acknowledged that circumstances could prevent absolute conformity with their requirements but demanded that "the spirit of them will be adhered to, in order to establish a convenient uniformity in all the chambers . . . Accordingly, as often as the troops change quarters, a chamber will be established as a model for the others." Finally, the rooms were to be kept scrupulously clean:

> Unless under special circumstances, Saturdays will be more particularly appropriated to police. The chiefs of squads will cause bunks and bedding to be over-haled; floors to be washed, sanded, or scoured; arms to be cleaned; accoutrements to be whitened and polished; and ever thing else to be put into the most exact state of order and neatness.[7]

The officers of the Quartermaster Department remained hemmed in by restrictions and as limited as before in what they could purchase, which except upon special authorization was only

> all forage, fuel, straw, and stationery, for the use of the troops transported and issued agreeably to the regulations; . . . dragoon and artillery horses, and horses, oxen, wagons, carts, and boats, for the transportation of baggage; . . . boards, plank, nails, and other materials for constructing and repairing barracks, hospitals, and bridges.[8]

The quartermasters' oversight of the condition of barracks was more carefully guarded by the 1821 regulations:

> All public barracks and quarters are under the direction of the officers of the quartermaster's department, and shall be assigned by them to the officers and troops of the army, agreeably to the regulations. For any damage sustained after barracks or quarters shall have been so assigned, the officer commanding the regiment, company, or detachment, occupying them, shall be held accountable; and he shall cause them to be repaired at his own expense, or that of the individual or individuals by whom the damage was done. No repairs shall be made at the expense of the United States, but by direction and under the superintendence of the officers of the quartermaster's department; and no expenditure on that account shall be made by *them*, at permanent posts, in time of peace, when the whole

> sum required to complete the work shall exceed one hundred dollars, without the special sanction of the secretary of war, communicated through the quartermaster general: nor shall expenditures thus made exceed, for any post, the sum of three hundred dollars per annum, without such sanction.[9]

Similar restrictions pertained to quarters left "in a filthy state," or in need of repair, by troops leaving them, and it was almost inevitable that the Army would in the regulations formalize its habitual reluctance to build permanent quarters: "No permanent barracks or quarters shall be erected at the expense of the United States, but by order of the secretary of war."[10]

The fuel allowance was altered again, reverting to allocation to men instead of to rooms. This time fuel was issued to men in groups of six, one-half cord per month from May through October, one cord per month from November through April, with an additional one-fourth cord per month in December, January, and February north of 40°. Since the men still lived chiefly in groups of 12, as was plainly implied in the regulations, the fuel allowance remained substantially as before, except that the winter season was shortened and the line for extra winter wood moved north from the Ohio River to the 40th parallel (making some reduction of the army total). There was a new option, however: "Coal may be issued, in lieu of wood, in proportion to the cost thereof." As before, fuel could be drawn only in the month for which it was to be used.[11] Finally, "at all posts in the vicinity of public or Indian lands, which afford fire-wood, the necessary fuel will be provided by fatigue parties detailed from the troops, under the direction of the several commanding officers."[12]

Perhaps the greatest change affecting the men's accommodations that appeared in the 1821 regulations was the reduction of the straw allowance virtually by half:

> One truss of straw, weighing eighteen pounds, is allowed to every two men, at the commencement of the month. At the

> expiration of fifteen days, each truss will be refreshed with four pounds, and at the expiration of the month the whole straw will be removed, and a fresh bedding of one truss will be furnished.
>
> The same quantity of straw is allowed to servants, or bat men, not soldiers, and for washerwomen, in the proportion of one to every seventeen men.
>
> The allowance and change of straw for the sick in hospitals, will be regulated by the senior attending surgeon.[13]

The drastic reduction in the straw allowance suggests that in 1821 or shortly after the common army bunk assumed the narrow width that would be reported at posts in the next two decades. While bunks probably were wider when the men received 36 pounds of straw in the initial issue (and assuming that bunks were present at all), after 1821 the bunks seldom exceeded 3 feet in width, to accommodate two men.

The principal reason for the reduced allowance probably had nothing to do with changing bunk dimensions--which likely were an accommodation either to more crowding or to the smaller straw issue or both--but instead reflected the Army's ceaseless search for ways to cut expenses. The new straw allotment cost half as much to buy and ship as the earlier one.

There were other ways the cost of straw could be curtailed: "At all posts in the vicinity of prairies belonging to the public, hay will be used in lieu of straw, and shall be provided by the troops."[14] At the posts where the men filled their bedding with prairie hay, the bedbugs, lice, and other pests already inhabiting the bunks would thereafter enjoy the company of sand fleas, chiggers, ticks, and other visitors from the outdoors.

Bedsacks were not yet specifically to be issued to men in garrison or winter quarters, although they were already a major item of procurement and, presumably, supply. But other articles of camp and garrison equipage, which made their way into the men's quarters, were enumerated:

> To every six non-commissioned officers, musicians, and privates, including the authorized number of washerwomen and servants, one common tent, one iron kettle, two tin pans, and one hatchet; and to each company six axes and four spades . . . . In lieu of kettles, iron pots may be furnished to troops in garrison.[15]

Finally, the 1821 regulations offered one last miserly touch by requiring that

> all casks and boxes, in which clothing, camp equipage, and other stores may be received, shall be carefully preserved and returned to the quartermaster, who shall cause them to be sold, and account for the proceeds in his next quarterly account.[16]

The clear implication of that instruction was that the soldiers would not be allowed to improve their barracks with wood taken from shipping containers.

If the regulations were any reflection of reality, soldiers after 1821 were expected to live in barracks much as they had since 1812, in groups of 12. Their lives were more carefully supervised, and in general they were to arrange themselves as they would on campaign, according to order of battle, with unit numbers on the doors and the men's names on bunks and equipment. Each soldier had a certain zone prescribed for him in space and time, and in that zone he maintained his bed, clothing, and weapons in harmony with a bunkmate. Arm racks, like bunks, were now acknowledged but not specifically required; and it can be supposed that they were closely associated with the bunks (to which, in addition, shelves and shoepegs were to be affixed). The possible presence of additional room contents like benches, tables, and cleaning implements was accepted by the regulations, but not demanded. If they were there, they were to be kept clean.

Camp and garrison equipage present in quarters was more carefully enumerated, and therefore accounted for, but the issue of bedsacks in garrison was at most a matter of custom, not regulation. The greatest change from earlier days was the smaller allowance of straw for bedding. Finally, troops were clearly allowed to cook with pots instead of camp kettles when they were in barracks--assuming the agreement (and adequate budget) of the post quartermaster.

Except at the rare "permanent" posts, army barracks life was merely a wooden variation on camp life, and the soldiers were always on campaign. When they were in barracks, they lived under the same discipline that governed them in the field. Since such conditions were "temporary," albeit year-round, the absence of amenities, like enough candles to read by or sufficient firewood to heat rooms, as well as food could be excused.

Winfield Scott continued to perfect the regulations, and a new edition was adopted in 1825.[17] But as they pertained to the life of men in quarters, they were unchanged from 1821. Junior officers received a little more fuel in the winters, but not the men, whose issue of straw and list of camp and garrison equipage were unaltered.

No effort was made to prescribe uniform standards even for barracks fixtures as essential as bunks and arm racks during this period. In 1826 an inspector general asked that standard drawings and instructions be prepared and distributed, but there is no evidence that he received any response.[18]

The next revision of the general regulations appeared in 1835.[19] Concerning barracks life, these regulations were somewhat more concise but unchanged in essential details. The most outstanding difference from the regulations of the 1820s was that the day for cleaning the barracks was changed to Friday.[20] The issue of blankets was formalized; the soldier received one in the first year of his three-year enlistment, another in the second, but none in the third.[21]

There were some additional statements in the 1835 regulations that, although they did not alter previous practices, revealed some changes in official attitudes. The Army now acknowledged that it would permit the men to outfit their quarters with basic furniture:

> Materials shall be furnished at the public expense for bunks, benches, and tables, for soldiers' barracks, and hospitals, which shall be made under the direction of the officers of the Quarter Master's Department, by artificers drawn from the companies. These articles shall be considered as fixtures, and shall bear the numbers of the rooms for which they are provided, and shall not be removed, except by the authority of the officers of the Quarter Master's Department of the respective posts. Commanding officers of companies, and attending Surgeons, will receipt and be held accountable for them.[22]

In practical terms, there was probably little that was new in that statement, because it is likely that it merely ratified practices that had been going on for years. But it marked the first formal acknowledgement that the definition of most posts as "temporary" needed some qualification. If the barracks required furniture, then they were something more than wintertime substitutes for summer tents. The Army, although always in the field on campaign, might well have occasion to occupy certain places for some length of time. On the other hand, it should be noted that the regulations did not require the Army to provide any furniture to the men themselves. Furniture instead was supplied by troop labor to the buildings, and the men using it must take care of it.

Another new feature of the 1835 regulations, however, did show some regard for the soldiers' personal well-being. In repeating the established 18-pound straw allowance, the regulations offered a warning to those who saw it as a possible source of income:

> Straw is not a personal allowance or emolument--it is furnished to secure the health and comfort of the soldiers, and is not, on

> any account, to be sold for their benefit; if not used by those for whom it is provided, as bedding, it is to be returned to the Quarter Master's Department.[23]

Another gleam of dawning enlightenment was reflected in the fact that the regulations now promoted personal hygiene in the fullest sense:

> Bathing is recommended, and where conveniences for it are to be had, the men should be made to bathe at least once a week. The feet are to be washed always at least twice a week.[24]

In the real world of army ranks, barracks life and barracks furniture remained essentially unchanged by regulation, other influences aside, for two full decades after 1821--in fact, it can fairly be said that little of material import changed in the regulations for five decades, except in theoretical terms. But the Army did not desire always to be in "temporary" circumstances, in the field chasing Indians. Its aspirations were to become a permanent force for national defense, living in permanent quarters suitable for the accommodation of soldiers.

By the end of its first half-century of existence, the American Army had become very proficient at managing its men, leading them into combat, feeding, paying, supplying, and moving them, clothing and arming them--all the things necessary to a fighting force--despite a tradition of penury and the natural obstacles of an unsettled frontier--except for the one essential of decent housing.

On November 24, 1838, Secretary of War Poinsett moved the regulation of barracks an important step forward when he set forth the first comprehensive statement on how the Army's buildings were to be constructed:

> Rules and Regulations for insuring uniformity and a due economy in the construction of the permanent public buildings hereafter to be erected for the use of the Quartermaster's, Engineer, Ordnance, and all other departments of the army.

1st. Materials.--None but the best kind shall enter into the construction.

2nd. Workmanship.--Plain, workman-like, and free from all ornament not necessary to a neat finish.

3rd. Doors and Shutters.--Framed, flat pannels, with a bead round the rails. For posts, south of the 40th degree of latitude, Venitians may be substituted for the shutters to the quarters and barracks. For store and other houses, the doors and shutters shall be framed, and the pannels flush with the rails.

4th. Roofs, whenever practicable, shall be covered with zinc, tin, sheet iron, slate tile, or other durable and incombustible substances.

5th. Piazzas are allowed for places where the circumstances of climate and exposure, render their addition necessary to health and protection against the elements.

6th. Stairs.--For the exterior they shall consist, if attached to a stone or brick building, of stone; otherwise of wood, substantially put together. For the interior, of the best wood, plain, and finished in a workman-like manner, balustrade with plain balusters, and rail of mahogany or other hard wood.

7th. Interior work.--The size, manner of framing, etc., of the wood work, shall be regulated according to the dimensions of the building and to the service for which it is designed; the joists shall, however, in every instance, be firmly bridged; and those for the Quarters filled in between, with tar or some other non-conductor of sound. The masonry of the offsetts on which they rest should be carried up even to their upper surface. The floors tongued and grooved. Walls, plastered, and in cases of brick or stone quarters, furred with a hard finish.

> Door and window casings, and surbase, plain, with a moulding at the edge. Mantels, of marble, when they can be obtained cheap; or when this cannot be obtained cheap, of stone or some other incombustible material, and to consist of a plain slab, supported by corbels, pilasters, and plinth. Hearths, coarse marble, stone or brick, and the jambs and backs of the fire places may be protected by iron plates, fire-bricks, or soap-stone. Hinges, etc., shall be of iron, but of the best quality. The locks yellow mounted. Lights [window panes], for officers' quarters 12 x 14, and for barracks and storehouses, 10 x 12, Boston Crown, or of any other [glass], strong and cheap. Pitch of Rooms above the 40th degree of latitude, 12 feet; below that degree, 14 feet for the sitting, and 12 feet for the bed rooms. The sitting rooms may be ornamented by a small cornice. Wood work painted.
>
> 8th. No Building will hereafter be erected or repaired, or additions be made, under any of the Departments, but in fulfillment of plans and estimates previously submitted and approved by the Secretary of War.[25]

Except for items of interior finish, of course, the building regulations of 1838 did not address the subject of furniture. Nor did the regulations themselves, general as they were, apply to most military posts, but specifically to the erection of "permanent" buildings.

Notes

1. The Jan. 1821 correspondence between Irvine and Secretary Calhoun was first published in *Military Collector and Historian*, 13 (Winter 1961): 126, and is reproduced as an appendix in Kummerow and Brown, *Enlisted Barracks at Fort Snelling*.

2. 1821 Regulations, 47-48.

3. Ibid., 68.

4. Ibid., 68-69.

5. Ibid., 69.

6. Ibid.

7. Ibid., 69-70.

8. Ibid., 180.

9. Ibid., 181-82.

10. Ibid., 182.

11. Ibid., 188-89.

12. Ibid., 189.

13. Ibid., 194.

14. Ibid.

15. Ibid., 194-95.

16. Ibid., 196.

17. 1825 Regulations.

18. Col. George Croghan, Aug. 1826, quoted in Kummerow and Brown, *Enlisted Barracks at Fort Snelling*, 12.

19. 1835 Regulations.

20. Ibid., 24.

21. Ibid., 209.

22. Ibid., 147.

23. Ibid., 152.

24. Ibid., 13.

25. Building Regulations 1838.

16

PUBLIC FURNITURE IN BARRACKS AND QUARTERS

(1839-1860)

The next revision of the Army's general regulations appeared in 1841.[1] As they affected barracks life, they remained essentially as before, the major alteration being the return of cleaning day to Saturday. There was, however, a slightly stronger statement on personal hygiene:

> Bathing is promotive both of comfort and health; and where conveniences for it are to be had, the men should be made to bathe at least once a week. The feet are to be washed at least twice a week.[2]

That was no more a requirement than the previous entry on the subject, but the explanation of the purpose of bathing marked the growing influence of the army surgeons.

The next revision of the general regulations in 1847 left those affecting barracks life mostly unchanged. The 1847 volume was shorter, and for staff departments, including the Quartermaster and Medical Departments, simply continued the 1841 provisions in force.[3]

On December 27, 1854, General Order 22 authorized the first general issue in barracks of an item of manufactured furniture:

> . . . Paragraph 974 of the General Regulations of 1841, is so far modified as to substitute single iron bedsteads for the wooden bunks prescribed by that paragraph, to be furnished by the Quartermaster Department.[4]

Although that provision affected subsequent revisions of the regulations, no subject so vividly illustrates the vast difference between the theory of regulations and the reality of field conditions than that of single iron bedsteads for barracks. In actual practice, except for a few barrack rooms around New York City, manufactured bedsteads of any description were scarce in the Army until the 1870s.

But for the Medical Department, with its separate procurement authorities and well-developed hygienic sensibilities, iron bedsteads did not long remain, as they were in barracks, a subject of wishful thinking. The new hospital supply table issued in 1856 listed "Bedsteads, iron" among the articles to be purchased for post hospitals, and by the end of 1858 iron bedsteads were nearly universal at post hospitals, as shown on their property returns.[5]

New general regulations appeared in 1855 and again in substantially the same form in 1857.[6] As related to barracks and their contents, the new regulations featured the greatest changes of any issued since 1821 and reflected both the generally increasing size of barracks and a growing official willingness to treat men as individuals instead of in lumps of six, eight, or 12.

No longer was the 12-man room the accepted norm. Instead of rooms, each group of six soldiers was allotted space--225 square feet north of 38° and 256 square feet south of that latitude. That was the only such grouping of the men left in the regulations. For fuel each enlisted man individually was to be allotted one-twelfth cord of wood from May through September, and one-sixth cord from October through April (although it was actually drawn for the men in lots for their organizational or residential groups). Each guard fire received no more than three cords per month in the winters only. From November through February all fuel allotments were increased by one-fourth north of 39° and by one-third north of 43°. Finally, coal could be substituted for wood at the rate of 1,500 pounds of anthracite or 30 bushels of bituminous to the cord, with "merchantable hard wood" the standard."[7] These provisions suggest clearly that barracks were changing from clusters of small rooms to large common rooms for companies and that stoves were coming into increasingly general use.

The general requirements for barracks arrangement and cleanliness in the 1855 and 1857 regulations remained much as they had been in the past. But there was considerably more attention to detail in certain matters. The regulations defined "barracks and quarters" as "the permanent buildings for the use of the army, as barracks, quarters, hospitals, storehouses, offices, stables."[8] The same general principles were to apply to temporary quarters, to the extent that circumstances permitted.

Furniture, including the hypothetical iron bedsteads, continued to be governed as fixtures of buildings rather than supplies for the men. Now, instead of saying that materials would be provided to build furniture, it was suggested that it could be supplied from without:

> Bunks, benches, and tables provided for soldiers' barracks and hospitals, are not to be removed from them, except by the quartermaster of the station, or order of the commanding officer, and shall not be removed from the station except by order of the Quartermaster General.[9]

But old provisions, dating from the 1820s, about the placement of arms in arm racks and the arrangement of knapsacks and clothing on upper and lower shelves of bunks remained unaltered, suggesting that the authors of the regulations had no realistic expectations that single iron bedsteads would appear in significant numbers. Cleaning day remained Saturday, and the men themselves were to bathe "where conveniences for bathing are to be had," and keep themselves neat and clean.

But as related to certain matters, the regulations did not always treat the possibility of single iron bedsteads as remote. The straw allowance was now gauged to the individual soldier, rather than to pairs of men, and in a slightly greater volume than before:

> In barracks, twelve pounds of straw per month for bedding will be allowed to each man, servant, and company woman.

> The allowance and change of straw for the sick is regulated by the surgeon.
>
> One hundred pounds per month is allowed for bedding to each horse in public service.
>
> At posts near prairie land owned by the United States, hay will be used instead of straw, and provided by the troops.
>
> Straw not actually used as bedding shall be accounted for as other public property.[10]

The hypothetical single bunks did not affect the issue of blankets, although that had changed because of the alteration of enlistment periods. A soldier now got one blanket in the first year and another in the third year of a five-year enlistment.[11] And probably by 1855 the blanket had assumed the heavy weight, proportions, and gray color that would persist for decades.

For the first time, it became a matter of regulation that "bed-sacks are provided for troops in garrison, and iron pots may be furnished to them instead of camp kettles." "Mess pans," so-called, also made an appearance, to be issued five to every 15 foot soldiers or 13 mounted men.[12] Regarding kitchen utensils, "Those detailed for duty in the kitchens will also be required to keep the furniture of the mess-room in order."[13] That, incidentally, is the first official acknowledgment that barracks might be enlarging sufficiently to allow separate rooms for cooking and eating, although such practices had apparently been standard for some time.

The first use of the term "furniture" in its modern sense occurred in the 1855 and 1857 regulations: "The furniture for each office will be two common desks or tables, six common chairs, one pair common andirons, and shovel and tongs."[14] Some things, however, seemed destined never to change; the ration of candles and soap to each 100 rations remained 1½ pounds and 4 pounds, respectively.[15]

The general regulations were not revised again until the start of the Civil War. But their authors seemed aware that, as related to the quarters and fixtures furnished to the men, they too often had only a theoretical connection to realities at the posts, where low budgets and frequent moves created atrocious "temporary" conditions. The 1857 regulations admitted the limitations imposed by fiscal shortfalls, in charging the quartermasters with the duty of inspecting quarters monthly and when vacated: "Damages will be promptly repaired if the quartermaster has the means."[16] The difficulties of maintenance and repair at the military posts were compounded by the absence of any prescribed standards or uniform guidance for construction other than the 1838 building regulations.

Beginning in 1858, the Quartermaster Department set out to correct that deficiency, and in 1860 it issued Regulations Concerning Barracks and Quarters for the Army of the United States, 1860.[17] They were adopted by the War Department, which ordered them to be printed and distributed the following year. The first comprehensive statement governing the Army's quarters to appear after 1838, the new regulations were at their heart a recapitulation and compilation of all rules in force in any way related to army buildings, including some provisions that had been around for decades. However, they contained some important innovations as well.

The barracks regulations began by restating the assignment of responsibilities for construction. At permanent fortifications, barracks and quarters were to be built by the Engineer Department; but when occupied, the buildings were to be turned over to the Quartermaster Department for "preservation and assignment according to regulations, and will revert to the care of the Engineer Department when abandoned by the troops." The Quartermaster Department, on the other hand, was to build barracks "at interior posts, or cantonments, unconnected with permanent fortifications. . . ."[18]

The regulations also set forth the first general description of what a standard army barracks should be. It was to be an L-shaped structure, the "main building" 29 feet wide and long enough to house an office in front and a storeroom in rear 13 feet 6 inches wide, together with two dormitories each 67 feet 8 inches long. The "back building" (wing) should be 20 feet wide and long enough to house a "washing room" (for laundry, not men) measuring 10 feet, a 40-foot mess room, and a 20-foot kitchen. If ground conditions warranted, the kitchen, mess room, and washing room could be installed in a basement beneath the main building. Quarters for a regimental band followed the same general plan except that they were smaller and held only one dormitory.[19]

Depending upon the size of a garrison, the regulations allowed one- and two-story guardhouses containing two sections. One housed a room for the officer of the guard and another for the men of the guard. Separated from those rooms by a transverse partition was to be the prison section, with a common prison room and a row of cells.[20]

The 1860 regulations were adaptable both to the traditonal, locally built furniture and to the issue of manufactured furniture: "Bunks, benches, and tables for soldiers' quarters, hospitals, guard-houses, and offices, will be made by the Quartermaster's Department, if not otherwise provided by it." The only other furniture enumerated was for offices, which remained "two common desks or tables, six common chairs, one pair common andirons, and shovel and tongs." But at least the Army could now move its furniture without going to the Quartermaster General himself for permission: "Public furniture in barracks and quarters will not be removed from one set to another without the authority of the commanding officer; nor from the station without the orders of the department commander."[21]

There were new procedures for allocation of quarters, and the regulations permitted reducing the space allowance for each company "if it is deemed necessary." If there were not enough quarters available, they were to be divided by lot among the arms (infantry, cavalry, artillery) present at a post. But no troops in place were to be deprived of their quarters because new units had joined a garrison.[22]

The fuel allowance was to be governed by the table offered in the 1855 and 1857 general regulations, except that each six enlisted men in one room received no more than one cord per month from October to April and none at all the rest of the year--they were now to have separate kitchens, which received separate allotments.[23] The space allocation, however, was refined in the new barracks regulations. Each six men in one room were to be accorded "about 324 square feet, or not less than 3,240 cubic feet, of room."[24] But the regulations acknowledged the facts of the Army's economic life: "Necessary repairs of public buildings, not provided for in the appropriations, can only be made by the labor of the troops." The men also had to cut their own firewood.[25]

The bulk of the regulations comprised meticulous drawings and complete materials-and-labor estimating-detail sheets for the construction of all types of buildings; balloon-frame construction was universal. They covered interior detailing features like doors, flooring, even washboards and mantels, although mainly in quantitative terms. But there were no patterns, and no allowance in the estimating-detail sheets, for the construction of bunks, tables, or benches. There were, however, detailed specifications for making floors of mortar and of plaster of paris--of the latter, the regulations said that "no floor is superior"--and for fireplaces and "staining for inside wood work."[26]

Because of the outbreak of the Civil War, the 1860 barracks regulations were never distributed, and it is doubtful that any building exactly conforming to them was ever erected. Where structures incorporating some of their features were built in the 1860s, the regulations offer considerable interpretive value by presenting the currently accepted formulas for items of finish and appearance. But otherwise, even the status of regulations qua regulations is doubtful. For instance, the next revision of the general regulations in 1861 ignored the more generous and refined space allowances set forth in the barracks regulations, content merely to repeat the formulas of the 1855 and 1857 general regulations.[27]

Notes

1. 1841 Regulations.

2. Ibid., 15.

3. 1847 Regulations, 27-29, 185.

4. RAGO, Orders and Circulars, RG94.

5. Medical Regulations 1856; ROSG, Abstract of Property Returns, 1858-66, RG112, NA. Gutta percha cloth also was added.

6. 1855 Regulations; 1857 Regulations.

7. 1855 Regulations, 4-5; 1857 Regulations, 124-25. The guard force received more fuel in winter because they needed heat at night as well as during the day, and none in summer because they did not cook.

8. 1857 Regulations, 123.

9. 1855 Regulations, 6; 1857 Regulations, 126.

10. 1855 Regulations, 11; 1857 Regulations, 130. The previous total per man was 11 pounds per month, including the "refreshment." It is not mentioned in the regulations whether the 12 pounds came all at once or in 15-day installments.

11. 1855 Regulations, 15; 1857 Regulations, 134.

12. 1855 Regulations, 15; 1857 Regulations, 133.

13. 1857 Regulations, 15.

14. 1855 Regulations, 6; ibid., 126.

15. 1857 Regulations, 241.

16. Ibid., 126.

17. Barracks Regulations 1860.

18. Ibid., 1.

19. Ibid., 2-3.

20. Barracks Regulations 1860, 4.

21. Ibid., 6.

22. Ibid., 9.

23. Ibid., 10.

24. Ibid.

25. Ibid., 11.

26. Ibid., 216-69 (barracks), 309-33 (hospitals), 334-51 (guardhouses), 480 (floors and fireplaces), 482 (staining). Pertinent drawings and specifications from the Barracks Regulations 1860 are reproduced in appendixes B, C, and M.

27. 1861 Regulations, 160.

17

WOOLEN, GRAY, WITH LETTERS U.S. IN BLACK

(1861-1865)

The Army entered the Civil War with a new issue of the general regulations, promulgated in 1861.[1] As related to barracks life and contents, they were substantially like the earlier version of 1857. The most interesting minor alteration was the first modification of the candle ration since 1812. Now the allotment was established as 1 pound of sperm candles, or 1¼ pounds of adamantine candles, or 1½ pounds of tallow candles to each 100 rations. In addition, "An issue (extra) of ten pounds of sperm candles, or twelve pounds of adamantine candles, or fifteen pounds of tallow candles per month, may be made to the principal guard of each camp or garrison, on the order of the commanding officer. . . ."[2]

Other changes were very minor. Company commanders were more strongly directed than previously to pay "the utmost attention . . . to the cleanliness of their men, as to their persons, clothing, arms, accoutrements, and equipments, and also as to their quarters or tents."[3] And once again, the permission of the quartermaster general was required to remove furniture from a station.[4] In addition, the blanket was now officially to be of a certain color and size: ". . . woolen, gray, with letters U.S. in black, four inches long, in the centre; to be seven feet long, and five and a half feet wide, and to weigh five pounds."[5]

The regulations were reissued in 1863 without noticeable change affecting barracks and their contents.[6] That volume governed the Army, with only specific modifications rendered by general order, until 1881. No new version of the army regulations appeared for so long because of complex bureaucratic and political wrangling and a general inability to come to grips with the need to redefine the Army as a permanent institution of national defense for a burgeoning industrial republic. Officially, for a full century after the victory at Yorktown, the Army was regulated as an ad hoc force governed mostly as if it were in the field against the enemy--despite the fact that "field" life for most soldiers was increasingly centered on military posts that, without official blessing, assumed more or less permanent existence. The chief countervailing force against the inertia of indecision was the bureaucratization of the War Department and centralization of procurement standards. As growing numbers of barracks contents became items of general issue instead of local manufacture at the posts, each article in its turn became separately the subject of regulation by general order or action of the secretary of war.

But that occurred chiefly after the Civil War. During that conflict, both regulations and practices governing barracks life and furniture were in practical terms set aside for the duration of the emergency. The war was temporary, so the way the men lived was also temporary. Without actually setting forth regulations, the Quartermaster Department increasingly provided central guidance on the erection and outfitting of barracks and other buildings. It was regulation of action, not of form, but it did the job and set the stage for more thoughtful policy in later years.

The chief effect of the Civil War on barracks furniture for training camps was the virtual elimination of any room contents except the soldiers' personal equipment and the necessary bunks, which were mostly tiered shelves or berths built onto barrack walls, at least in the training camps. The generous size of the Civil War bunks, in a context of minimal accommodations, shows that bunk widths, which had contracted during the 1820s, had since the 1840s expanded to an accepted standard of four feet or more.

In the field, in winter quarters, the life of the soldiers was governed inconsistently by the general regulations, and in practice by the revival of the hutting tradition that dated from the Revolution. Barracks, officially, did not exist during the Civil War and therefore were unregulated in any formal way.[7]

Notes

1. 1861 Regulations.

2. Ibid., Nos. 1191, 1202.

3. Ibid., No. 93

4. Ibid., No. 1087.

5. Ibid., No. 1571.

6. 1863 Regulations.

7. Civil War training barracks are discussed later, and pertinent drawings are set forth in appendix B.

18

AUTHORITY TO CONSTRUCT SUCH BUILDINGS (1866-1880)

With the general regulations of 1863 continuing in force for nearly two decades, it might be assumed that nothing changed officially in the barracks at the military posts. In fact the opposite was the case, and in the decade and a half following the Civil War the quarters of enlisted men were transformed dramatically as a result of official action.

The governance of barracks life could be modified by two means. One was through the issuance of general orders--or actions of the secretary of war, with the same force--that revised one or more paragraphs of the general regulations. The other procedure was the refinement of specifications for articles supplied in barracks, whether or not the items were specifically sanctioned by regulations. The effect in both cases was to expand the inventory of barracks furniture and to establish increasing uniformity throughout the Army.

The first regulation that authorized a general issue of barracks furniture had appeared in 1854, permitting the provision of single iron bedsteads, but it did not require that such articles be furnished. The following year, the new general regulations had said that bedsacks and iron pots "may be provided" to troops in garrison. The next such statement on a specific item came in General Order 58 of July 10, 1869.[1] Instead of permitting or requiring something, this statement outlawed what had never been authorized to begin with--lamps burning volatile oils.

On April 30, 1875, General Order 56 permitted the provision of footlockers for the men at permanent barracks.[2] That order, which was the last one adding to the inventory without presenting more than a general specification, did not actually require the general supply of the footlockers, and they appeared for some time only upon the initiative of officers who requested them. That same year the War Department instituted the adoption of standards for army stoves and cooking ranges, requiring thereafter that those supplied be of the specified patterns.[3] It also authorized the issue of pillow sacks, which required revision of the regulated monthly straw allowance from 12 to 16 pounds per man.[4]

The last regulatory change that expanded the barracks furniture inventory came in 1878. General Order 118 directed the distribution of new wooden barrack chairs according to an established supply table.[5] That was a significant departure from tradition, for it was the first time that the War Department expressly required that a certain item of furniture, according to specified pattern, be distributed to all barracks without anyone asking for it.

But regulations were not the most important influence on the details of barracks contents. Rather, the refinement of specifications during and after the 1870s and after actually produced, ultimately, a general uniformity throughout the Army. No longer would furniture vary from post to post according to the talents of the men who built it, nor would general issue articles differ from contract to contract. It took many years before this bureaucratic adaptation to national industrialization could transform the insides of all barracks, but the process was well underway by 1880. Some time was also required to refine distinctions between regulations and specifications, but eventually that would happen, and every barrack room would come to look much like every other under the combined influence of the two procedures.

Notes

1. In AGO Oil File.

2. ARQMG 1875, 197.

3. See appendix C.

4. ARQMG 1876, 126.

5. ARQMG 1878, 325-26.

PART IV

CONTEMPORARY REPORTS

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19

THAT ANNOYING AND DISGUSTING INSECT

Soldiers sing of their beans and canteens,
    Of the coffee in old army cup,
Why not mention the small friends we've seen,
    Always trying to chew armies up?

Those firm friends, tireless friends,
    Hardly ever neglecting their hugs,
Their regard never ends--
    How they loved us, those old army bugs.[1]

Since before the time that Alexander the Great conquered the ancient world, armies have marched and slept together. The more beastly the conditions in which soldiers have lived, the more small beasts have lived with them. Fleas, spiders, cockroaches, lice, and other creatures have always been as much a part of the soldier's life as his weapon--in fact, more so, because a soldier sometimes puts his weapon aside. But over the centuries, no insect has been so constant a presence in barracks as the one an American army surgeon of the 1850s execrated as "that annoying and disgusting insect, the cimex lectularius"--the common bedbug.[2]

Nothing--not even the army budget--had such an effect on the comfort of soldiers during the 19th century as that infamous pest. Its omnipresence made it a central feature of life in barracks. Its habits determined such things as the design of bunks and the institution of regulations on barracks sanitation. It was to a great extent because of the bedbug that the Army distributed manufactured bedsteads in the 1870s. But even that action could not separate the soldiers from their ancient companions, who infested the very buildings. When post commanders appealed for insect exterminators, they were told that the Army could not "afford to pay the expense of a bed bug war."[3] Not until World War II did the Army manage to banish the tiniest residents from barracks.

"Bedbug" is the common name for about 75 species of insects of the family Cimicidae (order Heteroptera) that live on the blood of man and other warm-blooded animals. The adult is reddish-brown, flat, broad, and typically less than one-fifth of an inch long with only vestigial wings. The pests announce their presence with a distinctive oily odor, which they probably use to attract one another for breeding. And breeding is something they do with a vengeance; the female lays an average of 200 eggs during one reproductive period and can produce three or more generations a year.

Bedbugs have been described as "among the most cosmopolitan of human parasites." They have bedeviled mankind for thousands of years, inhabiting virtually every kind of dwelling, hiding by day and emerging at night to feed, then returning to their hiding places to digest their meals. They feed by sucking the blood of their hosts and may require several days to digest the intake; adult specimens have been known to live over a year without eating. They are therefore very difficult to eradicate (without chemicals) once they have infested a building or its contents. Bedbugs stink up a room, are exceedingly irritating when they bite, and have as the only mitigating claim in their favor the fact that they are not known to transmit diseases to humans.[4]

Bedbugs were so unavoidable, albeit repulsive, a condition of barracks life that soldiers had simply to accept them with stoic patience. Inspectors, surgeons, and commanding officers throughout the 19th and 20th centuries cursed the pests, but could do little to thwart them. The men tried to shove them from their minds, so it is not surprising that except for an occasional song or joke the vermin only rarely appear in the reminiscences of soldiers. One veteran of the 1930s and 1940s, in recalling the nuisance, could have been speaking for his predecessors of centuries past:

> Nobody today realizes what a big part of the army life bedbugs played. . . . The big problem was the bedbugs at night. . . . You always had blood on your chest. . . . After

> a while you got used to the fact that you had somebody else in bed with you. You just brushed them off and went back to sleep. We knew we had to live with them.[5]

In 1939, thanks to modern technology, enlisted men had more brutal weapons against the pests than those available in the 19th century. But the scheduled assaults on bedbugs owed much to earlier practices and were little more effective. Once a week the bedsprings were burnt with a blowtorch to kill the eggs harbored in them, and once a month the mattresses were taken to the post gas chamber for fumigation. But no insecticides were issued in barracks before World War II.[6]

The weekly overhaul of bedsteads was established at least as early as 1821 and may have owed something to an understanding of the insect's life cycle--or more likely, objection to its strong odor. But the overhauls occurred in daytime, when the tiny pests were in hiding--not just in bunks and bedding, but in floors, walls, and other parts of the buildings. Over the decades the Army tried whatever was in its power--refining and enforcing the regulations on barracks sanitation, designing bunks to be disassembled for inspection and cleaning, and finally adopting modern bedsteads and bedding--but the results were nil. The bedbug, which so much inspired the design of barracks furniture, proved remarkably adaptable to all changes. Other traditions of barracks life--winter huts, bedsacks, wooden bunks--passed away one by one, but the soldier's oldest companion remained with him.[7]

Notes

1. "Those Old Army Bugs" (to the tune of "Sweet Bye and Bye"), in Edward A. Dolph, "Sound Off": Soldier Songs from Yankee Doodle to Parley Voo (New York: Cosmopolitan Book Corporation, 1929), 317. This dates from the Civil War, according to Dolph. The second verse is the chorus.

2. Quoted in Chris Emmett, Fort Union and the Winning of the Southwest (Norman: University of Oklahoma Press, 1965), 201-02. The statement is from 1856.

3. Foner, United States Soldier Between Wars, 18. The year of that statement was 1886.

4. "Bedbugs," The New Encyclopaedia Britannica (30 vols., Chicago: Encyclopedia Britannica, 1976), Micropedia vol. 1:921.

5. Joseph R. Blaise, interview with the author, Oct. 30, 1981.

6. Ibid.

7. It was well within the Army's power to exterminate the pests in the 19th century, incidentally. The traditional home remedy for bedbugs has long been to ignite one or another mixture of ingredients containing sulfur, allowing it to smolder in a closed room. Of course, the room may not be used by humans for a day or so, which might be the reason that the Army evidently never adopted this widespread civilian practice. During the 20th century the commonest civilian fumigating mixture was one of sulfur and carbolic acid, sold in drugstores until recently. Carbolic acid became common after the mid-19th century and, after the adoption of the germ theory, was the principal medical disinfectant and was abundantly available in post hospitals from the 1860s on.

C.S. Forester, author of The African Queen and many other popular historical novels, has a grasp of the small details of daily life in the old days that exceeds that of most other writers and would shame most historians. Bedbugs and other vermin plagued navies as well as armies, and battles with them are reported by Forester in the series of novels about Horatio Hornblower. Some of the accounts offer instructive information, such as the following incident during the Napoleonic wars, from Lieutenant Hornblower (1951; paperback ed., Los Angeles, Pinnacle Books, 1974), 244:

> Now he had to wage war on the insect world and not on mankind; the Spanish prisoners in the six days they had been on board had infected the ship with all the parasites they had brought with them. Fleas, lice, and bedbugs swarmed everywhere, and in the congenial environment of a wooden ship in the tropics full of men they flourished exceedingly. Heads had to be cropped and bedding baked; and in a desperate attempt to wall in the bedbugs woodwork had to be repainted--a success of a day or two flattered only to deceive, for after each interval the pests showed up again. Even the cockroachs and the rats that had always been in the ship seemed to multiply and become omnipresent.

Equally futile painting of furniture and woodwork was occasionally reported in the American Army during the 19th century, but the baking of bedding--a logical procedure that may have presaged the post gas chambers of the 20th century--was not.

GENERAL CONDITIONS

A review of contemporary observations of American army posts before 1880 shows clearly that, with exceptions here and there, the soldiers at most places lived most of the time in substandard, often atrocious conditions. Not many posts were well constructed, and the budgets for maintenance and repairs were always too low.

There is little first-hand record of enlisted life for the earliest years of the 19th century. The army was small, and many of the enlisted men were foreigners or illiterates who did not record their (usually brief) experience of military service. Nor had the Army yet instituted the inspections and bureaucratic oversight functions that produced more extensive records in later years.

Before 1812 the scattered posts were small. Those on the frontier were generally built of logs and puncheons and were intended to last one winter. During the War of 1812 quarters were provided in great haste, if at all, and the most prevalent general condition was deprivation. For instance, in September 1812 the quartermaster general was ordered to construct winter quarters in the northern theater, but by December not one barrack had been completed at Green Bush, Vermont, among other places, and supplies of wood and straw were insufficient. The commanders at Plattsburgh, New York, and Burlington, Vermont, pleaded with the quartermaster general to furnish tools so that the men could furnish their shelters.[1]

After the war it is known that the general construction of army posts improved, with sawn lumber becoming more common--and probably with war-surplus woodworking tools more available at posts. A contemporary plan of Cantonment Missouri, Nebraska, probably typical of larger frontier posts built between 1817 and 1820, shows a hollow square of small, adjoining rooms built of horizontal hewn timbers, with board floors and roofs, brick fireplaces, and log-and-mud chimneys. It is also known that in the years before 1821 troops came under criticism for putting too much time and energy into improvements in their living conditions and into unmilitary practices like gardening.[2] There was a flurry of fort-building on the frontier in the years from 1817 to 1820, but in the latter year Congress put a halt to all construction and repair. During the next half-decade, the existing posts deteriorated steadily.[3]

The repair and construction budget was restored in 1825, but things had come to such a pass at many posts that the following year Quartermaster General Jesup said of one of them, "The condition of the buildings at Fort St. Philip is such as not only to forbid everything like comfort, but to endanger the lives of the troops." He reported that new construction there was planned, "and materials have been collected in part for that purpose."[4] In general, the labor was provided by the troops, who furnished their buildings with simple wooden bunks, tables, and benches.

During the 1820s the military posts came under the eyes of inspectors general, who made continual tours of the Army. One of them, George Croghan, found much to his dismay that unmilitary activities received too much attention at some locations. In 1826 he penned a strong complaint about the diversion of troop labor to gardening and other things unrelated to the Army's mission:

> Look at Fort Atkinson and you will see barn yards that would not disgrace a Pennsylvania farmer, herds of cattle that would do credit to a Potomac grazier, yet where is the gain in this, either to the soldier or to the government? Ask the individual who boastingly shews you all this, why such a provision of hay and corn. His answer will be, to feed the cattle. But why so many cattle? Why--to eat the hay and corn.[5]

Obviously, troops so engaged were diverted from caring for their quarters, let alone military pursuits, and affected their barracks chiefly by filling them with the paraphernalia and fruits--and dirt--of husbandry.

Edmund P. Gaines toured the southern and western posts in 1827 and returned with a scathing indictment of the Army's housing. At the Post at Petite Coquilles, Louisiana, for instance, he dismissed the hospital building simply as "unsuitable," and in the barracks complained of "the inconveniences of a heavy police, with old but temporary and ill-constructed barracks, requiring frequent repairs. . . . The mess arrangements, and the condition of the barracks and bunks, though not altogether as perfect as under more favorable circumstances they should be, were quite as good as could reasonably be expected in these wretched barracks." Gaines found barracks at southern posts generally to be "wretched," and begged the surgeon general to join him in "urging the propriety of having good barracks and hospitals constructed." He objected especially to the prevalent overcrowding, suggesting that no barracks in the South could safely take more than four or five men to a room "during the sickly season."[6]

Gaines found things little better in the North. At Fort Crawford, Wisconsin, the wooden blockhouses and huts were "so much decayed as to be uninhabitable without extensive repairs," and even with repair they would have remained unhealthy. "The floors and lower timbers are decayed in part by frequent overflowing of the river, which has left the wood soaked and filled with damp sediment." Although, he said, repairs had recently been ordered, the floods would recur. Previous flooding had been as deep as 4 feet in barrack rooms, producing conditions so venomous that in October 1827--not nearly as bad as summertime, according to the surgeon--over one-fourth of the garrison was listed as sick.[7]

Military posts were established and abandoned, but one thing remained constant at most of them--living conditions were execrable. In 1838, at Fort Brady, Michigan, Croghan found things to be especially disgusting:

> The bunks are defective in this, that the lower tier, being on the floor itself, must of course remain damp for some time after the chambers have been washed out. I would remark that the chambers themselves from want of proper ventilation have in

> damp and warm weather a foul, unpleasant smell, which must become worse as the timbers of which the buildings are erected decay. To obviate this (in some degree at least), windows must be made on the rear of the several apartments to correspond with those in front.[8]

Upon the men inhabiting these "ordinary log cabins and block houses of the frontier," as Jesup called them,[9] the effects of such conditions were predictable. The surgeon general remarked in 1839 that it was safer for the men to face Indian warfare than life in the barracks. Those in Florida fighting the Seminoles, he said, had "suffered less from sickness, and lost fewer men by disease . . . than while they were stationary at their posts."[10]

It seems incredible that living conditions could continue to deteriorate without the Army correcting them. But in 1842, four years after Croghan's first description, things were even worse at Fort Brady:

> The quarters of both officers and men are in a dilapidated condition. The floors of all of them have sunk more or less. The doors no longer swing perpendicularly on their hinges; the porticoes are rotten; in truth, nothing is as it should be save the roofing, which is sound and tight throughout.[11]

Sixteen months later, however, at least at that post some repairs had been made, including the laying of new floors. But Croghan believed that Fort Brady had beome a hopeless case, "for truly patch as you may, the old barrack will fall to pieces from its own rottenness in a few years."[12] Only occasionally did Croghan find a military post to his liking. At Madison Barracks, New York, in 1843, for instance, "The quarters are in good repair, and as I had a right to expect, they are clean and neat."[13] But more typically at permanent posts, the men lived in "cramped and most unwholesome casemates. . . ."[14]

By the mid-1840s, the advancing frontier had drawn the Army to the edge of the Great Plains, but still near supplies of timber. Construction techniques were gradually improving, and at some newer posts men lived in groups of two dozen instead of 12. When a post was very new it might be rather habitable, albeit primitive and overcrowded, as Croghan discovered at Fort Washita, Oklahoma, in 1844:

> The quarters of the men are convenient and comfortable; each company has two blocks or sets of houses, containing two rooms of 17 by 19 feet, separated by a hall or passage nine or ten feet wide. These houses are of oak logs hewn on the inside, and though built with no eye to permanency, they will nevertheless answer every purpose for some years or until the command can make bricks and provide the necessary lumber for the erection of barracks of a better and more durable description.[15]

But new log buildings swiftly became infested with vermin and began immediately to rot and pull apart. Within a span of years some military posts became downright hazardous, as was the case in 1844 at Fort Smith, Arkansas, an older post northeast of Fort Washita:

> The quarters of the commandant alone are in good condition. All the others, whether of officer or soldier, are rapidly approaching to dilapidation, and although at present habitable, they will in the course of a year or two tumble down. In truth, but for the pains taken to avert such calamity by the use of props and other modes of strengthening, some of them would have been down ere this. They all stand upon wooden posts two or three feet high, which rotting of course cause the superstructure to settle and in some cases to separate, as none of them are held together by girders as is the case with the house of the commandant. All the buildings are put together somewhat after the Canadian manner, short logs let into grooved uprights and with no seeming regard to strength or durability.[16]

Conditions that year at another older post, Fort Gibson, Oklahoma, where the quarters were "sadly out of repair" and very uncomfortable, had recently gained slight improvement through demolition. The "pickets," or stockade, surrounding the buildings had been cut down and windows cut into the back sides of the barracks. "Pent up as they were before this change was made," Croghan averred, "the wonder is not that the men became sick but that any lived." The post hospital, which was also a shabby structure, had at least been ventilated better because it had been outside the fort walls. Reviewing the history of walled places like Fort Gibson, Croghan opined that the general absence of ventilation in army barracks had caused more casualties than had the Seminole Indians.[17]

Here and there, because there were no standard plans or uniform rules governing construction at temporary posts, the Army failed to heed experience and repeated the errors of the past. At Fort Des Moines, Iowa, only two years old on a new site in 1845, Croghan deplored the fact that all buildings had been erected with "round unbarked logs . . . finished in the plainest manner." Although he excused that on the grounds that no temporary post "ought to cost more than five hundred dollars," the fact remained that unbarked structures deteriorated much faster, and harbored greater populations of vermin, than those built of peeled or hewn logs or boards.[18]

The Mexican War left the Army spread over the continent and enjoying in the aftermath a larger budget than before. But transportation took the lion's share, and it appeared that military posts in California might claim much of what remained for barracks and quarters. In that state the Army evidently wanted to make a good impression and set out to construct buildings properly finished inside and out. But circumstances sometimes made that difficult. At Benicia Arsenal in 1850, for instance, plastering was judged impracticable because of the unavailability of materials. Heavy lumber was imported from Oregon, and "ceiling with planed boards was substituted [for plastering]. To prepare these rough and hard boards with the hand plane was tedious and laborious, and has added largely to the time of construction, as well as cost," reported the quartermaster general.[19]

The efforts in the 1850s to construct a high-quality barracks at some posts meant that even less support was available for the others. At Fort Arbuckle, Oklahoma, in 1851, for example, the post surgeon reported that only hewn log barracks were planned, with puncheon floors.[20] The quartermaster general of the Department of Texas described the barracks at Fort Worth the same year as "quarters for one hundred and twenty men, built of logs and puncheons--without floors--mud and stick chimneys, with kitchen. . . ."[21] At Fort Duncan there were "six grass houses occupied by the companies, built entirely of willow poles and grass, no floors or windows."[22]

Although good barracks existed here and there in the 1850s, most of the men endured scandalous conditions. In 1853, Inspector General Joseph K.F. Mansfield reported that at Fort Conrad, New Mexico, "the quarters of both officers and soldiers are falling to pieces. The timbers had rotted away--some of the troops were in tents." The following year he dismissed the barracks at the post at Mission of San Diego, California, as "worthless: Company I occupies some miserably old adobe buildings, and Company F are in tents."[23] In 1856 the post surgeon at Fort Union, New Mexico, said that all of the barracks were literally falling down, but the men in them faced worse perils than collapsing roofs: ". . . unbarked logs afford excellent hiding places for that annoying and disgusting insect, the cimex lectularius, so common in this country, which it is by no means backward in taking advantage of, to the evident discomfort of those who occupy the buildings." Whenever the weather allowed, he said, the men almost always slept outdoors.[24]

But at least the men stationed in New Mexico were spared the rigors of the winters farther north. One enlisted veteran described life at Fort Pierre, Dakota, during the winter of 1856-57, as a terrible ordeal:

> Officers and soldiers suffered alike. The miserable huts in which we lived during the winter were unfit for stables. We almost froze in them, and when the spring came, the mud roofs leaked like sieves.

> I look back upon the winter passed at Fort Pierre as one of great suffering and hardship, by far the worst that I went through during my service.[25]

Even at many of the California posts conditions were awful. At Fort Miller in 1858 the barracks were described as six rooms whose condition was "very bad--Rooms small. No ceiling to four of the rooms. No bunks to same."[26] But in the late 1850s occasional attempts were made to improve things, especially the general absence of flooring. The floors in the six new stone barracks at Fort Davis, Texas, were described in 1858 as "flagged."[27] Even finer sanitary improvements were made to the infantry barracks at Fort Fillmore, New Mexico, the following year. They were floored with 10,000 red tiles. The fired-clay floor tiles, discovered in excavations in 1966, were light red in color, 8 inches square, and about 2 inches thick--certainly an improvement over the earth floors they covered.[28]

The fitful attempts at betterment came to an end with the Civil War. The only important barracks construction during that conflict was at training camps for volunteers. One veteran described the buildings as very simple:

> To such as are not familiar with these structures, I will simply say that they were generally a long one-storied building not unlike a bowling-alley in proportions, having the entrance at one end, a broad aisle running through the center, and a double row of bunks, one above the other, on either side. They were calculated to hold one company of a hundred men.[29]

As plain as the Civil War barracks and hospitals were, they were remarkably better buildings than most of those housing the Regular Army before and after the war. Typically, the balloon-framed buildings had dressed tongue-and-groove flooring, all lumber used for the bunks--often built in three tiers instead of two--was also dressed, and the hospitals and convalescent barracks, at least, had plenty of windows.[30] But the soldiers inhabited good buildings only during training or hospitalization.

Most of the time, they spent their summers in tents and their winters in small log huts roofed with tenting.

After the war the Army reverted to living conditions as primitive as any in its history. Some troops even lived in sod structures, as at Fort Sedgwick, Colorado, in 1866. Of such housing, an inspector complained, "Dirt, dampness, disease, vermin, all infest such structures, and the United States Government, I take it, means better than that by the faithful troops that serve it."[31] The government may have meant better, but it did not do better at many posts. The first quarters for the soldiers at Fort Griffin, Texas, in 1867-68, were 42 small one-room log huts, each measuring 14-1/2 feet by 8 feet, with walls 5 feet 10 inches high. Six men occupied each hut, with the only ventilation a small window at one end and the door at the other. The post surgeon blamed the living conditions for the high incidences of dysentery, diarrhea, and continued fevers among the men.[32]

At Fort Stevenson, Dakota, the barracks and hospitals built in 1867 and 1868 were floored, but with green cottonwood lumber. They warped and shrank when scrubbed, and the weekly washing soon caused the joists to rot.[33] Such sorry situations seem understandable, if not excusable, on the frontier. But the Army appeared unable in the late 1860s to do better even in civilized regions. The housing of the troops occupying the South contributed to such a high disease rate that the Surgeon General's Office made a special inspection in 1868. Perhaps the best enlisted men's quarters were to be found at Camp Emory, Georgia:

> The Quarters for the Cavalry are wooden boxes, floored[,] raised six inches above the ground, roofed with "A" tents. Average occupancy of each--six men. Each tent or box is furnished with three double bunks and has suitable racks for carbines and sabres; also, has a brick fire place, hearth and chimney.[34]

Quarters elsewhere were sometimes little better than the winter huts of the wartime campaigns.

In 1870 the deplorable conditions found in army barracks prompted the Medical Department's scathing Report on Barracks and Hospitals, which significantly influenced the first, tentative attempts at reform during the 1870s, including the distribution of single iron bedsteads. Although even worse conditions could be found elsewhere, Fort Buford, Dakota, received special attention in the 1870 report. The men there slept in triple-tiered bunks, apparently the last such remaining in the Army. The barracks containing the bunks were described by the post surgeon as atrociously dim buildings with little ventilation and no bathing facilities. They were so arranged that "steam and effluvia" passed from the kitchens to the quarters, making the latter "very disagreeable." Nor did the men take care of their quarters, according to the surgeon. "The fact that there is no store or lumber-room [store room] connected with the barracks is made evident by the accumulation of sundry articles in the kitchens, mess-rooms, and sleeping rooms, to the detriment of the good order and neatness of the quarters."[35]

Shabby barracks were not conducive to orderly living, and apparently in the years after the Civil War it was not only at Fort Buford that the soldiers wallowed like hogs. The Army seemed to be losing its traditional habit of neatness, demanded by the regulations from 1821 until the 1860s, if the reports of surgeons and inspectors are to be believed.

At Fort Davis, Texas, for instance, the barracks became so filthy in 1869 and 1870 that the post surgeon was instructed to make daily inspections and relate what he found to the post adjutant so that the men and their officers could be held to account. He made some headway, reporting some quarters "neat and more orderly," but usually he discovered clothing and bedding thrown around the rooms, an absence of uniformity in arranging the room contents, everything dusty, "and rubbish of various kinds thrown under the bunks." He also remarked that "there is in all the Quarters a want of system of arranging the boxes. Many of them being placed in the middle of the floor and used to sit on. I would suggest that several benches be provided for each Barrack."[36] The men at some other posts, however, behaved better. In the barracks at Fort Wallace, Kansas, "the cheerlessness of these accommodations is mitigated by a rigid system of cleanliness and white-washing," according to the post surgeon.[37]

At the permanent fortifications on the East Coast, some things were more agreeable, but still in 1870 there was no uniformity, even within a single post. The men at Fort McHenry, Maryland, for instance, inhabited two sets of barracks. Those outside the fort on the northeast part of the sea wall were of brick, "large and commodious," two-story, with dormitories upstairs furnished with iron bedsteads, well ventilated, heated by stoves, and well lit with plenty of windows. The barracks inside the fort, however, offered overcrowded conditions, only 330 cubic feet per man, with inadequate ventilation. Although the rooms were plastered and ceiled, the men slept in pairs on two-tier wooden bunks.[38] But they were more fortunate than the men at Fort Pulaski, Georgia, who lived in 20 casemates, each housing ten men. The only heat was from open fireplaces, the only ventilation the chimneys, an outlet tube, two windows, and four embrasures. At least the men there slept in single bunks.[39]

The distribution of single iron bedsteads in the early 1870s did nothing to improve the generally shabby condition of the barracks. In 1872 the post surgeon at Fort Davis, Texas, bitterly condemned the way the men were housed:

> But two of the Barracks . . . are completed. Nor are they really finished. They were plastered inside, but very badly, and the greater part of the plastering has long since fallen off, and no attempts made to repair the walls. The barracks are very untidy, dirty, and disorderly. They have earth floors, which by want of proper attention, are very dusty--and soil all articles of clothing in the barracks. The mess rooms and kitchens are not plastered--have earth floors--and are equally as dirty and untidy as the barracks. Nor is the Place as well attended to as formerly. The troops are now supplied with single iron Bunks, and bedsacks filled with hay and blankets, but their beds are never tidy, or orderly.

Because the two other barracks at the post had not been completed, he pointed out, the men were also severely overcrowded.[40]

Even where better buildings were available, quarters were crammed and uncomfortable, as at the recruiting rendezvous at Newport Barracks, Kentucky, during the summer of 1872. One veteran of that place recalled:

> The last two days of our stay, we were kept shut up in our "quarters"--a big room on the third floor. The room was literally packed with recruits. The old "double decker" bunks--four men occupying each bunk--stood thickly along each side of the room.[41]

Through the 1870s there was only gradual improvement in the general conditions of barracks. As had been the case for almost a century, the buildings housing the men were mostly of primitive construction. Although many of them may have been tolerable when new, most of them deteriorated quickly. Incidental improvements like new bedsteads or an occasional coat of whitewash could not hide the fact that most soldiers did not have fit places to live. It was not until later, with army reform and the consolidation of posts, that barracks life in general became more comfortable, and those living it had more cheerful things to say about it.

Notes

1. Risch, Quartermaster Support, 170.

2. Ganoe, History of the United States Army, 151. See appendix B for the plan of Cantonment Missouri.

3. For support of all general statements in this part of the report, the reader is referred to part II.

4. ARQMG 1826, Mil. Aff. Doc. 334, 19 Cong. 2 Sess., ASP 18.

5. Prucha, Army Life, 7.

6. Bvt. Maj. Gen. Edmund P. Gaines, Report of a General Inspection of the Military Posts of the Western Department, and Remarks Concerning the Militia of the United States, Mil. Aff. Doc. 407, 20 Cong. 2 Sess. (1829), ASP 19: 110-12. Gaines was the department commander. His comment on numbers suggests that the 12-man room was the norm.

7. Ibid., 123-24.

8. Prucha, Army Life, 46.

9. ARQMG 1839, 114.

10. ARSurGen 1839, Sen. Doc. 1, 26 Cong. 1 Sess., 147.

11. Prucha, Army Life, 47.

12. Ibid., 50.

13. Ibid.

14. ArCommanding General 1843, 64.

15. Prucha, Army Life, 51-52.

16. Ibid., 52. Post-on-sill construction with timber in-fills was commonly called "Canadian" style in the United States during the 19th century.

17. Ibid., 53.

18. Ibid.

19. ARQMG 1851, 304.

20. Rodney Glisan, Journal of Army Life (San Francisco: A.L. Bancroft, 1874), 81.

21. ARQMG 1851, 270.

22. Ibid., 279.

23. Robert W. Frazer, Mansfield on the Condition of the Western Forts, 1853-54 (Norman: University of Oklahoma Press, 1963), 51, 143-44.

24. Emmett, Fort Union, 201-02.

25. Meyers, Ten Years in the Ranks, 106-07.

26. "Statement of the Number and Conditions of Buildings at Fort Miller, Cal. . . . ," ARQMG, Miscellaneous Records Relating to Reservations and to Buildings, 1819-65, RG92.

27. "Annual Report of the Condition . . . of the Public Buildings at Ft. Davis, Tex.," QMConFile--Davis, Ft., Tex., RG92.

28. John P. Wilson, "One Hundred Years Later: Excavations at Fort Fillmore," El Palacio 74(Summer 1967):33, 37. Wilson's historical research discovered that the tiles were requisitioned for fiscal 1859.

29. John D. Billings, Hardtack and Coffee: The Unwritten Story of Army Life, The Lakeside Classics, no. 58, ed. Richard Harwell (Chicago: R.R. Donnelley, 1960; orig. pub. 1887), 35-36.

30. Typical hospitals and barracks built, probably in 1862, at Alexandria, Virginia, are described tersely in "Statements of Buildings, etc., erected. . . .," Miscellaneous Records Relating to Reservations and Buildings, RG92.

31. J.F. Rusling to Meigs, 12 Sept. 1865, quoted in Risch, Quartermaster Support, 484.

32. Carl Coke Rister, Fort Griffin on the Texas Frontier (Norman: University of Oklahoma Press, 1956), 65-66.

33. Ray H. Mattison, "Old Fort Stevenson: A Typical Missouri River Military Post," reprinted from North Dakota History 18(April and July 1951):30.

34. ROSG, Report on Living Conditions at Posts in the South, 1868-69, RG112.

35. Billings, Report on Barracks and Hospitals, 402.

36. RAGO, Medical Histories of Posts, Medical History of Fort Davis, RG94, entries for Jan. 5 and Jan. 7, 1870. See also Clary, "Role of the Army Surgeon," 57.

37. Billings, Report on Barracks and Hospitals, 310.

38. Ibid., 64.

39. Ibid., 149.

40. Medical History of Fort Davis, May 1872.

41. John E. Cox, *Five Years in the United States Army: Reminiscences and Records of an Ex-Regular* (1892; reprinted New York: S. Lewis, 1973), 12-13.

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BUNKS AND ARM RACKS

Wooden army bunks, much cursed in their later years, appear to have drawn little recorded notice in the first two decades of the 19th century; they were probably far from universal. Nor did anyone thereafter offer much in the way of a description of the bunks at any post. The chief clues to their appearance in contemporary comments are criticisms of their defects or occasional deviation from the regulations. But all that the latter required of bunks was that each man have an upper and lower shelf and a peg for his shoes, and that the bunks be "overhaled" weekly.

Despite the absence of uniform guidance, a general pattern of bunkbed[1] construction appears to have become customary by the 1820s, although there was considerable variation from place to place. It can be inferred from inspectors' and surgeons' comments that the typical bunkbeds were freestanding, mostly two-level (sometimes three-level), superposed, framed boxes in which men slept in pairs. They were built on site by carpenters detailed from the ranks, probably with sawn lumber, sometimes dressed, sometimes not. Usually four men shared a two-level bunkbed, and six shared a three-tier model (with at least one nine-man, three-level arrangement reported). Arm racks were usually attached to the bunks or bunkbeds. The structures were designed for weekly disassembly, suggesting that pegs or locking wedges rather than nails usually held them together. It can be inferred that the general pattern was a frame of four stout corner posts joined by two sets of side and end boards or rails. The latter probably had tenons inserted through mortises in the corner posts, secured there by removable wedges, although other arrangements are possible. The side or end boards supported the boards forming the bunk bottoms. Shelves usually projected from the ends. Finally, wooden bunks were sometimes painted--in a futile attempt to close harbors for bedbugs.

There was a contradiction inherent in the construction of bunkbeds. On the one hand, they had to be sturdy enough to hold four or six men. On the other, they had to be readily disassembled. It is apparent that at no post were both ends served equally, and most quickly became rickety, "crazy things indeed," as an observer called them.

The earliest comment on bunks at an army post came from an officer of the 6th Infantry at Cantonment Missouri, Nebraska, in January 1820. He was highly critical of the filthiness of the men's quarters and attributed much of the problem to a faulty bunk design: "The construction of the bunks in the Rifle Regiment does not appear to be calculated for the enforcing of a rigid police on account of the vacancy next the floor."[2] It might be inferred from that that the idea of elevating bunks with an air space beneath was relatively new, possibly a result of the increasing use of lumber in fort construction. It can also be inferred that the men of the two regiments at the post erected bunks of differing patterns--those of the riflemen elevated, those of the infantry not.

By 1826 the absence of uniformity in bunk construction among the several posts caused Inspector General Croghan to ask that a standard design be prepared and distributed, but that apparently never happened.[3] In fact, the very existence of bunks was not universal, as suggested by the comments of Gaines at Fort Crawford, Wisconsin, in 1827. He remarked that the police and discipline of the post were good, "notwithstanding the rough, dirty, and decaying barracks, without bunks, render it impossible to keep the clothing, bedding, arms, &c, in as good order with equal or even increased attention, as at Fort Snelling."[4]

George Croghan devoted more attention to the construction of bunks than any other officer of the 1820s and 1830s. He seldom encountered any of which he approved. And some arrangements, like those he found at Fort Wood, Louisiana, in 1829, were in his opinion terrible:

> The form of the bunks is not perhaps in conformity with that prescribed by regulation and is certainly not suited to this

> locality and climate, which would cause us to separate rather than crowd sleepers together. The widest bunks that I have seen hitherto are less than three feet wide, but these are at least five feet and of three tiers in height, and each tier calculated to lodge three instead of two persons, as usual.[5]

That comment, albeit negative, is actually very informative. It confirms that the typical bunkbed held four men in two tiers: The nine-on-three arrangement at Fort Wood was exceptional. It also suggests that bunks had in fact become quite narrow, at least since the reduction of the straw allowance in 1821. That implies that the bunks were actually boxed in with sideboards, which would not only combine the straw but keep the men from falling from their halves of the typically less-than-three-feet width.

Croghan also reported that bunks became rickety through use. Those at Fort Howard, Wisconsin, in 1831, were "now after 8 or 10 years' service (as may be supposed) crazy things indeed."[6] Poor design or construction techniques could also, he believed, shorten the life of the bunks and make them even more disagreeable than they were to begin with. Witness those at Fort Winnebago, Wisconsin, in 1838:

> Bunks in bad condition and irreparable. The very circumstances which induced their being built as they are, with timber far beyond the usual size, has contributed to their present craziness, for although size may give strength, it at the same time affords, as in this instance, greater surface for the growth of this pest of the country--the bed bugs, which by compelling an almost constant overhauling of both bunk and furniture necessarily hastens the destruction of both.[7]

If bunks raised from the floors were unfamiliar in 1820, they were evidently the norm in 1838, as Croghan's criticism of those at Fort Brady, Michigan, suggests: "The bunks are defective in this, that the lower tier, being on the floor itself, must of course remain damp for some time after the chambers have been washed out."[8] But even properly designed bunkbeds were objectionable, as Croghan said in 1842 of those at Fort Crawford (an 1829 replacement of its earlier namesake that Croghan had visited in 1827):

> Bunks and arm racks. Both were so well made and of such durable materials under the searching eye of Brigadier General [Zachary] Taylor when the barracks were being built that they are very nearly as good and serviceable as they were in the first instance, when I reported them to be in exact conformity with regulation. Complaints are made of their bulkiness and the difficulty of taking them apart as often as could be wished, to rid them of the bugs which are frequently very troublesome, but this inconvenience must remain and without remedy so long as we have wooden bunks, for they can not be made more portable and answer at the same time for the accommodation of four men each.[9]

At Madison Barracks, New York, the following year Croghan discovered that the bunks were all old and built in different patterns, some with attached arm racks, others without. He elaborated on the contradiction inherent in wooden bunk construction:

> Though old and a little crazy, they may be made to answer for some years to come. The chief objection to an old bunk is that when once infected by bugs, it can not be rid of them without great inconvenience and trouble, for if it be taken down with a view to a thorough examination, the chances are that it can not be put together again.[10]

But at Fort Towson, Oklahoma, in 1844, Croghan discovered very few bunks at the post, "and such as there are worth nothing." They were so infested with bedbugs that the men slept "either upon the galleries or the floor of their quarters." The post quartermaster was planning to "furnish all the quarters with new bunks, so constructed as to be easily taken down, an essential quality where they require to be so frequently overhauled." He was also going to provide new arm racks to replace those that Croghan described as "little better than the bunks and improperly made as well as badly arranged."[11]

Some time between 1829, when Croghan criticized the nine-man bunks at Fort Wood, and the start of the Civil War, the customary width of bunks increased from under three feet to four or more. Unfortunately, it appears that no one commented upon that development. Given the fact that bunks were designed and built separately at each post--each quartermaster attempting to devise a pattern that would stand up to the stress of weekly disassembly--there probably was no deliberate, general effort to widen the bunks. Rather, without uniformity throughout the Army, bunks of various widths probably could be found at the several posts, those with larger barrack rooms likely to have larger bunks. If there was a dividing point, a time when most army bunks were now wider than three feet, it probably was after the Mexican War.

It was suggested earlier that the earliest bunks may have been relatively wide and that the common width was reduced with the reduction in the straw allowance after 1821. Narrower bunks would make smaller straw beds thicker, therefore more comfortable. It can also be supposed that smaller bunks would conserve another valuable commodity--boards. The larger straw allowance before 1821 probably reflected a tradition of rough sleeping arrangements; more straw would provide better sleeping on floors or on rough puncheon bunks or pallets. But by 1821 sawn lumber was generally available for several applications at military posts, probably including the construction of bunks. Board bottoms would afford reasonably comfortable sleeping with a reduced allowance of straw. Economy and changing technology would therefore have gone hand in hand in the 1821 regulations on straw.

But boards were expensive if purchased and slow to produce if whipsawn on site--and they were needed for several things besides bunks (roofs, shutters, floors, etc.). Narrower bunks would help to reduce the money or labor required to produce boards for barracks construction. But over the years the Army became less exclusively dependent upon whipsaws. As portable sawmills became generally more abundant, more and more of them appeared at military construction sites--at the same time that civilian lumber was falling in price (for the same reason). By the 1850s, boards had become far more available than before for all applications, so the conservative motivation favoring narrower bunks declined. At Benicia Arsenal, California, during fiscal 1850, for instance, the Army spent a total of $840,351 on lumber for building construction, of which $5,000 went for lumber for "the manufacture of bunks, office furniture, &c."[12] What size the bunks might have been is open to speculation, but they need not have been kept small because lumber was in short supply; it was plentiful.

Something else was also at work. Throughout the period probably the single most important determinant of the size of bunks at a post was the space available in the rooms where they were to be installed. By the 1850s the average size of barrack rooms had expanded considerably. Bunks therefore did not need to be kept small merely because of space limitations.

At new posts not endowed with the Division of the Pacific's generous construction budget or with powered sawmills, older practices persisted after the Mexican War. Camp Arbuckle, Oklahoma, was hastily thrown together during the winter of 1850-51, and all its buildings were of logs with log-and-mud chimneys. "The men," reported the post surgeon, "occupy a long building about twenty-five by two hundred feet, divided into about four rooms, besides the kitchen. They sleep on rude bunks, made of split logs and clapboards, placed two and a half feet from the floor."[13]

Something else that was new appeared in a few barracks during the 1850s--iron bedsteads. Augustus Meyers enlisted at Governors Island, New York, in 1854, and discovered that his training-barrack room was furnished with six iron double bedsteads and a single iron bedstead for the corporal. The double bedsteads folded to relieve crowding during the daytime. But later that year Meyers moved to Carlisle Barracks, Pennsylvania, where "the rooms were large enough not be crowded; but the bunks were the old-fashioned two-tier kind. Two men slept in each of the lower and upper bunks, and it was uncomfortable."[14]

The rush of volunteers at the beginning of the Civil War created an enormous demand for accommodations. At first, men were housed in whatever space was available in and around Washington. An engraving in the June 1, 1861 issue of Harper's Weekly shows men of the First Rhode Island Regiment housed in the Patent Building, and is the earliest known illustration of 19th century army bunks. Those appearing in the engraving were probably manufactured by civilian contractors and were probably reflective but not typical of army bunkbeds before or after the war. The units contained six two-man bunks in three tiers, joined end-to-end with a total of six corner posts. They appear to be nailed together rather than arranged for disassembly and had no storage shelves. Arm racks on one end consisted of a small shelf at the lower bunk and a wooden bar between the top and middle bunks, attached to the outside of the end. Pegs for cups and canteens were affixed to the end posts. The bunks were less than 3 feet wide. The men lay together head-to-foot (that is, in opposite directions) in each bunk tier.

A February 1864 Harper's Weekly engraving of "The Stag Dance," apparently in a barrack of some sort, shows a different bunk arrangement. There the bunks were boxes in two tiers, end to end, affixed to a side wall of the building. They too seem permanently assembled but rather wider than the ones in the Patent Building.[15]

Neither arrangement was typical of the temporary barracks built during the war. Almost universally, those buildings had no movable contents other than bedding and personal effects. Specifications like those for barracks built at five locations in New Jersey in 1862 probably were the rule for the first year or two of the war. The buildings were to measure 16 by 50 feet, 8 feet high, with doors at each end and three 6-light windows on each side. They were of rough-cut boards and battens, with gabled roofs of board and cement. "There are to be three tiers of bunks on each inside of the barrack, four feet wide," said the specifications. "The partitions and outer board of each bunk to be six inches high, and sufficient in each building for ninety-six men to sleep in." The drawing accompanying the specifications shows each bunk to measure 4 feet even by 6 feet 3 inches and implies that the bottom bunks would be on the ground. But a plan prepared after construction of the buildings shows the bunks measuring 4 by 6 feet even, in three tiers 2 feet apart, with the lowest 2 feet above the floor. Two years later floors were installed in the New Jersey barracks.[16] Not all the early training camp barracks conformed exactly to that pattern; many were 100 feet long with bunks in two tiers.

In approving plans for barracks for a New Hampshire regiment, the secretary of war at the end of 1863 directed that "the plan will be so modified as to limit the expense to what is absolutely indispensable for the comfort of the troops." It is hard to see what could have been reduced, since the plan was for a very simple two-story building measuring 114 by 24 feet, with officers' quarters, kitchens, mess rooms, and wash and store rooms below and two dormitories above. The bunks were to be double, measure 4 feet 2 inches by 6 feet 6 inches, "3 stories high," arranged along the walls at intervals of 3 feet, perpendicular to the walls. The windows were at every other interval, with three more on each end of the building.[17]

Another, possibly unique, sleeping arrangement in Civil War barracks was reported from an unidentified location in 1864. A soldier recalled that "the men slept on platforms twelve feet wide, which ran along each side of the long barracks, and accommodated twenty-five men in a row."[18] But three-tier, two-man (6 men total) bunks--paralleling the walls early in the war, perpendicular later--seem to have been the general rule. Although the Civil War barracks were special adjustments to the emergency, they necessarily adapted established practices. The fact that it was assumed from the outset that two-man bunks should be at least 4 feet wide, no matter how constructed, would suggest very strongly that bunks commonly had assumed that dimension before the war.

Away from the barracks, the armies spent their winters in huts much like those of the Revolution. A veteran's description of the homemade bunks in the winter huts is revealing not only for the Civil War but perhaps also for earlier practices:

> In entering a door at the end one would usually observe two bunks across the opposite end, one near the ground (or floor, when there was such a luxury, which was rarely), and the other well up towards the top of the walls. I say, usually. It depended upon circumstances. When two men only occupied the hut there was one bunk. Sometimes when four occupied it there was but one, and that one running lengthwise. There are other exceptions which I need not mention; but the average hut contained two bunks.
>
> The construction of these bunks was varied in character. Some were built of boards from hardtack boxes; some men improvised a spring-bed of slender saplings, and padded them with a cushion of hay, oak or pine leaves; others obtained coarse grain sacks from an artillery or cavalry camp, or from some wagon train, and then by making a hammock-like arrangement of them thus devised to make repose a little sweeter.[19]

Although such arrangements had to be endured, they were not healthy. One army surgeon claimed afterward that there had been "an unnecessary waste of life in our late war" caused chiefly by "want of a suitable bed. Frequently there [was] nothing but some brush, and pieces of board saved from cracker-boxes and barrel-heads between the sleeper, his blanket, and the mud or frozen earth."[20]

Where "permanent" posts continued in use during the war and immediately after, their earlier sleeping accommodations persisted. For instance, at the musician-boys' training barrack at Governors Island, the folding iron bedsteads encountered by Meyers in 1854 greeted another youngster in the same room in 1864.[21] Nor did things change at Carlisle Barracks, where a room in 1865-66 "contained eight double bunks, each holding four men, that is to say, two in the lower tier and two in the upper," according to another veteran.[22]

The Army returned to "normal" after the Civil War, scattering once again to primitive outposts all over the frontier. But neither the men nor their doctors would accept the old four-men wooden bunkbed with the same docility as their predecessors. Single iron bedsteads had been promised by regulations for over a decade, but only a few had been delivered. In the late 1860s one enlisted man begged in writing that "provision be made for the men to sleep singly and alone and not keep up the present barbarous and unhealthy system of having the men sleep in couples summer and winter."[23] The post surgeon at Fort Harker, Kansas, agreed: "This, as is well known (aside from any immoral tendency) is a most objectionable form of bed."[24] But at least it was better than none at all; it was because the recruits at David's Island were sleeping on floors in 1867-68 that Rufus Ingalls developed his "Jack Bunk," discussed earlier.

Dr. Billings issued his scathing indictment of the Army's housing in 1870, supporting it with a detailed bill of particulars. Most of the soldiers slept in four-man, two-tier wooden bunkbeds, generally 4 feet wide, although here and there some men received better, others worse. Nearly every post covered in Billings' report made at least some mention of sleeping arrangements. The following are some selections.[25]

> [Department of Arizona] The bunks are built of cottonwood saplings, with slats of old packing boxes or stout willow branches. With few exceptions they are arranged in two tiers, like the berths of a ship.
>
> [Fort Benton, Montana] The bunks are double, and two storied.
>
> [Camp Bowie, Arizona] It has no other furniture than the rough bunks, constructed of poles, cut in the ravines near the post.
>
> [Fort Brady, Michigan] In addition to the other defects the men are supplied with double bunks 4-1/2 feet by 6-1/2 feet,

two tiers high, and designed to accommodate four men each. These occupy so much of the interior that the men have but little space in which to perform their ordinary duties and have comfortable places to rest.

[Fort Brown, Texas] [The barracks are each] fitted up with a sufficient number of single, two-tier wooden bunks, ranged down both sides of the room.

[Fort Buford, Dakota] The bunks are badly arranged in three tiers one above the other, each bunk holding two men.

[Fort Clark, Texas] Bedsteads are arranged in tiers, each 6-3/12 by 2-10/12 feet. There is a gun rack at one end and two shelves at the other, near the wall. These beds are placed at right angles to the walls, or across the barrack, in two rows.

[Camp Colorado, Arizona] Their only furnishings are crudely built bunks, raised a foot or more from the ground.

[Fort Colville, Washington] The room contains 25 wooden bunks, 3-1/2 feet wide, each occupied by two men.

[Camp Gaston, California] [One barrack has] thirty-eight double bunks in two tiers [another contains] in all forty-eight double bunks in two tiers, with accommodations for ninety-six men.

[Fort Gibson, Oklahoma] There are fourteen double bunks to accommodate 56 men.

[Camp Grant, Arizona] The bunks are rudely constructed, but single and well-raised from the ground.

[Fort Gratiot, Michigan] In the main building, the men are furnished with old-fashioned bunks, with two tiers of beds, each to accommodate two men. These bunks are about 4-1/2 feet wide and 6-1/2 feet long and are occupied by four persons, and are placed so closely together as to allow room barely to get between them.

[Fort Griffin, Texas] The beds consist of single wooden bunks.

[Fort Hays, Kansas] The beds are double-tier wooden bunks, two men sleeping together in each tier, four men in each bunk. There is a drawer for each occupant under the lower berth, and an arm-rack and shelf at the foot of the bunk, the whole arrangement being very objectionable.

[Fort Lapwai, Idaho] [The rooms] each contain seven bunks for the accommodation of 28 men.

[Fort Laramie, Wyoming] The barracks are all furnished with two tiers of movable bunks, constructed of rough white pine lumber, two men occupying each bunk when the companies are at the maximum.

[Post at Little Rock, Arkansas] Each one is supplied with a sufficient number of neatly painted two-storied bunks; the majority of them are single bunks, a few being double.

[Fort McHenry, Maryland] At present wooden two-story bunks are furnished these quarters [inside the fort], and are alike detrimental to morality, cleanliness and comfort; four men sleep in these bunks.

[McPherson Barracks, Georgia] Both iron and wooden single bunks, are provided.

[Camp Mojave, Arizona] Single bunks are used.

[Post at Mobile, Alabama] Bunks are of wood, measure 6 feet by 27 inches, and are single.

[Fort Pike, Louisiana] The men sleep in single, two story bunks furnished with . . . mosquito bars.

[Plattsburgh Barracks, New York] Each bunk is arranged for two men.

[Fort Sanders, Wyoming] Ordinary wooden double bunks, in one and two tiers, are used.

[Fort Stanton, New Mexico] The squad rooms . . . are furnished with double bunks in single tiers.

[Fort Stevenson, Dakota] There are in each dormitory ten new, neatly furnished, two-tier double bunks, capable of accommodating eight [sic] men each, or eighty in all.

[Fort Stockton, Texas] The men sleep on . . . wooden bunks, two men each, the bunks are of old lumber, and, having been made by the men, are of rough workmanship.

[Taylor Barracks, Kentucky] The bunks are of wood, each frame making four berths, two above and two below. All cracks, nail-holes, etc., are closed by putty to exclude bugs, but the success is small, the walls, roof, and ceilings of the buildings being full of them.

[Fort Totten, Dakota] The bunks are of wood, painted; each accommodates two men.

[Campe Verde, Arizona] The only fixtures or furniture, is a double line of bunks, two tiers high, each 4 feet wide, and accommodating four men.

[Fort Wadsworth, Dakota] Single wooden bunks are used, furnished with the usual bedding.

[Fort Wallace, Kansas] Each dormitory contains forty double bunks in two tiers, intended for eight men.

[Fort Craig, New Mexico] [S]ingle iron bedsteads are used.

[Fort Foote, Maryland] Iron bedsteads, similar to those used in the Hospital Department, are furnished . . . .

[Fort Hamilton, New York] The majority of the enlisted men sleep upon bedsteads composed of board slats, an inch thick, supported by iron trestles, and better adapted for the purpose than anything else in use.

[Fort Independence, Massachusetts] The bunks are each composed of two iron trestles, connected by slats; each bunk is intended for one man.

[Fort Jefferson, Florida] The men have iron bedsteads.

[Madison Barracks, New York] Each man has an iron bedstead, of the hospital pattern, to himself . . .

[Fort McHenry, Maryland] In these rooms [in the barracks outside the fort] iron bedsteads are used, which contribute greatly to the comfort of the men and neatness of the barracks.

[Fort Monroe, Virginia] The bunks used in the company quarters are similar to those which were made for the Hospital Department during the war, being iron frames with wooden slats. The bunks are furnished two to three men.

[Fort Union, New Mexico] . . . movable iron bunks [21 in each barrack room].

> [Fort Washington, Maryland] It is also fitted with iron bedsteads.

The foregoing were selected partly for variety; it should be noted that over half the army posts at the time of Billings' report were supplied with nothing other than two-level, four-man bunkbeds built in some fashion of wood. The quotations also illustrate the difficulties associated with trying to draw a picture of the objects from contemporary reports. To some of the post surgeons who provided statements for Billings' report, the word "bunk" meant a sleeping platform, and a "double bunk" meant a bed for two. But to others a "bunk" was a two-level bunkbed, which for yet others was a "double bunk" that might house two or four men in all. Some of the doctors were very precise in their descriptions; others can be interpreted in several ways. Compare, for instance, Camp Gaston, where 48 "double bunks in two tiers" housed 96 men, with Fort Gibson, where 14 "double bunks" held 56 men. The eight-man monstrosities at Fort Stevenson must have followed their own pattern.

The growing number of iron-trestle, wood-bottom bedsteads, especially at the coastal fortifications in the Northeast, presaged the eventual adoption of the Barrack and Composite bunks, both of which were of that type. Some of the trestle bunks may have been the Miller bunk, and others perhaps Ingalls' Jack bunk. The use of the term "hospital pattern" evidently indicates nothing more than that the bedstead in question was on one level, for one man, because it appears to apply to iron and iron-and-wood bedsteads of different types. It is possible, however, that some of those reports reflect use in barracks of war-surplus hospital bedsteads purchased from the Medical Department.

The replacement of wooden bunks with general-issue models began in 1871, and by 1875 most soldiers slept alone on the new bedsteads.[26] About one-third of those in use by that time were of Meigs' Barrack model, although no more of them were purchased after fiscal 1872. Most of the remainder were the Composite No. 9 model produced under the contracts of fiscal 1872 and after, although over 3,000 of the earlier, straight-legged Composite bunks were distributed to certain posts during

1871. And apparently yet a third Composite bunk, the No. 10 (featuring the redesign without the shield rejected by Meigs in 1873), was waiting in the wings--but appeared only with purchases after 1879. At least 200 Coyle army bunks were scattered at posts where they had been tested, but there is no evidence that any more of them came into service. Finally, several earlier models of iron and iron-and-wood bedsteads continued in use until they became serviceable.

Although the receipt of the single iron bedsteads was often noted, thereafter they occasioned very little contemporary comment, except when, as with the tests of the Coyle army bunk, remarks were requested by higher authorities. Improvements over shared wooden bunks they might be, but the new bedsteads were no great pleasure to sleep upon--even when the soldiers did not fall off them, as apparently happened often. Like many other unpleasant but unavoidable conditions of barracks life, they were put out of mind. As a song popular in the Army said it:

> There's corns upon me feet, me boy, and bunions on me toes,
> And lugging a gun in the red-hot sun puts freckles on me nose,
> And if you want a furlough to the captain you do go,
> And he says, "Go to bed and wait till you're dead in the Regular
> Army, Oh!"[27]

Notes

1. The term "bunkbed," a modern derivation only rarely encountered in the 19th century, is used here for convenience's sake to represent an entire construction holding bunks or bed platforms on more than one level.

2. Sally A. Johnson, "Cantonment Missouri, 1819-20," *Nebraska History* 37(June 1956):126.

3. Kummerow and Brown, *Enlisted Barracks at Fort Snelling*, 12.

4. Gaines, *Report of Inspection*, 125.

5. Prucha, *Army Life*, 44.

6. Ibid., 45.

7. Ibid., 46.

8. Ibid.

9. Ibid., 48.

10. Ibid., 50.

11. Ibid., 51.

12. ARQMG 1851, 309-17.

13. Glisan, *Journal of Army Life*, 52. "Clapboard" was a general term for sawn boards; it does not necessarily imply the beveled or tapered cross-section common to siding boards.

14. Meyers, *Ten Years in the Ranks*, 2, 36.

15. "Sleeping Bunks of the First Rhode Island Regiment, at the Patent Office, Washington, *"Harper's Weekly* (June 1, 1861); "The Stag Dance," *Harper's Weekly* (February 6, 1864).

16. Drawings and specifications, and Maj. W.J. Newton to Maj. L.H. Pelouse, Jan. 6, 1864, in QMConFile--Barracks (New Jersey), RG92. See appendix B.

17. E.R.S. Canby to D.H. Rucker, 22 Dec. 1863, and plan, QMConFile--Barracks, Plans for, RG 92.

18. Matthews and Wecter, *Our Soldiers Speak*, 154-55. This sleeping arrangement had been used by the French in the 18th century; a 6-foot shelf survives at Fort Niagara, New York, according to William L. Brown III.

19. Billings, *Hardtack and Coffee*, 69-70.

20. E.W. Locke, *Three Years in Camp and Hospital* (Boston: Geo. D. Russel, 1870), 75.

21. Ostrander, *Army Boy*, 14-15. It should be noted that Ostrander's chapter on Governors Island is a flagrant plagiarism of Meyers', and accordingly should be taken with caution. The rest of his book, however, is apparently original and very useful.

22. H.H. McConnell, *Five Years a Cavalryman: Or, Sketches of Regular Army Life on the Texas Frontier, Twenty Odd Years Ago* (Jacksboro, Tex.: J.N. Rogers, 1889), 12.

23. Foner, *United States Soldier Between Wars*, 18.

24. Ebel, "Soldier-Doctors," 26.

25. Billings, Report on Barracks and Hospitals, passim. This all appears more completely in appendix A, with page citations.

26. See chapter 9.

27. "The Regular Army, Oh!" in Dolph, Sound Off, 6-9. This is the song whose chorus ends with the well-known "Forty miles a day on beans and hay, in the Regular Army, Oh!" Dolph says that there were several versions of this song, long popular in the ranks. The best known, from which the quotation is drawn, was written down for the vaudeville stage by Ed Harrigan in 1874.

22

BEDDING

The chief item of bedding provided to American soldiers in barracks before 1880 was the bedsack, although the regulations did not specifically allow for it until the 1850s. It is very likely, however, that bedsacks were supplied as a matter of custom, probably starting in the 1780s or even earlier. The straw allowance of 1801 was established according to the "palliass" for each two men, although that word vanished from the regulations by 1812. It is possible that the old distinction between "permanent" and "temporary" quarters might in the early years have kept bedsacks from being provided to most soldiers, but that does not seem likely. As a ruler of practice, custom was probably stronger than such legalism when it came to items so basic, and when bedsacks finally appeared in the regulations they were among the camp and garrison equipage that accompanied troops on the move. Further, it is believed that the Purchasing Department procured bedsacks before 1817. On the other hand, before the reforms in the several years after the War of 1812, supplies of many things actually fell short at many posts. The occasional absence of bedsacks at frontier posts must therefore be assumed. Their absence would militate in favor of bunks constructed as boxes to contain the straw, while their presence would facilitate the construction of bunks raised from the floor.

In his annual report for 1839, Commissary General of Purchases Irvine, explaining his estimate of materials and costs for army clothing for 1839 and 1840, presented the following list of materials required for one "Infantry bedsack, double":

4-1/4 yards 7-8 drilling
4-1/4 yards of 3-4 drilling
3 skeins thread
1 yard binding

That was apparently a change from earlier practice, as Irvine implied in a footnote: "Bedsacks, per estimates to the close of 1838, and also per statements furnished to the Secretary of War, require materials differing from the above, viz: Bedsack, double--8-1/4 yards 7-8 drilling; 3 skeins thread; and 1 yard binding."[1]

The foregoing raises three interesting points. The first is why the object was called an "Infantry" bedsack. There is nothing to indicate that different bedsacks would be provided to different arms, and no logical reason to suppose that such would be done--except that mounted men were required to be small of stature throughout the 19th century. But perhaps too much inference may be drawn from bureaucratic terminology. In any case, the term never appeared again.

Second, as of 1839 the War Department apparently redesigned the bedsack, probably as an economy measure, to be made of two different weights of drill. The heavier 7-8 drill probably formed the bottom, the lighter the top. This may have been the first change in bedsack construction to that point, in which case the footnote suggests the makeup of bedsacks since the War of 1812 or even earlier.

The third thing that Irvine's list suggests is that bedsacks were not adjusted to conform to the changing straw allowance or to the narrow bunks common in the 1820s and 1830s--implying either that the narrowing of the bunks was not official, which is likely, or that after 1839 they were to become officially wider, which except for the "officially" is also likely, or that the purchasing authorities were ignorant of practices in the field, which is definitely true. Bedsacks made from over 8 yards of material, whether filled to 4 or 6 inches' depth (both of which were later standards), would be large. Assuming the distribution of the material as averaging 4-1/8 yards per half (some greater trim loss would come with use of two materials, explaining the 4-1/4 yards after 1839), the gross dimensions of each averaged half (assuming also that 6 feet would be the desired length when filled) would be 63.6 by 84 inches empty. Shaving 12 inches or so from each dimension to allow for side depth, seams, and trim loss, the resulting bedsack would measure roughly 52 by 72 inches when filled. In other words, double bedsacks before 1839 were wider than the bunks they typically occupied, and as wide as they ever were in later years--about 4 by 6 feet.

There is no information available on the actual construction of the early bedsacks. But it is likely that such a prosaic object was essentially unchanging; those of the 1780s (called "palliasses") probably were much like those described more fully in the 1870s and after. It was basically a rectangular canvas sack, either with stitched side panels or simply forming sides when filled. The top face had a slot or fly in the center bound at the edges and secured by ribbons. The color would be that grayish cast typical of ticking, although there is no reason to believe that bedsacks ever acquired the blue striping that became traditional with ticking--19th century illustrations suggest that bedsacks remained unstriped to the end.[2]

Apparently the bedsacks with two weights of material did not prove practical, as that design was abandoned by the time of the Civil War. In compiling specifications for wartime purchases in 1864, the Quartermaster Department set forth more descriptive requirements for bedsacks. Whether they repeated those already in use at Philadelphia, where all such articles had been procured before the war, or represented wartime revisions for simplicity's sake, has not been determined. At any rate, the following bedsack served the Army from the 1860s, if not before, well into the 1870s:

> Bed Sacks: cotton or linen drilling, of good quality, weighing 4 ounces to the yard; double bed sacks 72 inches long and 48 inches broad, the single bed sacks to have the same length but only 42 inches broad, each to have an opening in center 18 inches long to be tied together with 4 strings of tape each 3/4 of an inch wide and nine (9) inches long. The end pieces to be six (6) inches wide.[3]

Such a double bedsack could readily have been made with the amounts of material listed by Irvine in 1839.

In 1875, the Army for the first time supplied soldiers with places to rest their heads:

> To meet a want felt in the Army, the Secretary of War, on 18th September 1875, on recommendation of the Acting Quartermaster General, authorized issue of pillow-sacks to the troops. They are made from a very large stock of shelter-tents in store. Their issue has made it necessary to increase the monthly allowance of straw to enlisted men.[4]

Pillow sacks made of tenting canvas probably accounted for the majority of pillow sacks in use for many years. By the late 1870s, however, the Quartermaster Department apparently believed that it was necessary to prepare for the purchase of pillow sacks when the stocks of tenting ran out. In 1879, therefore, specifications were issued that described pillow sacks as nothing more than miniature bedsacks, made of cotton or linen drill or seven-ounce cotton duck "of good quality," measuring 27-1/2 by 17 inches when filled, and 3-3/4 to 4 inches deep. There was to be "an opening or fly on the seam in the upper side seven (7) inches long," fastened with two ties of cotton tape. Button-hole stitching was to secure the fly, and "ends of the sacks [were] to be cut square."[5] It is doubtful that any of these new pillow sacks appeared in barracks before 1880.

Also in 1879 the bedsack was slightly redefined. Thereafter it too was to be of "cotton or linen drilling or seven (7) ounce cotton duck of good quality." When filled, it now was to measure 6 feet 10 inches long by 31-1/4 inches wide and 4-1/2 inches deep. The opening in the center was to be 19 inches long, with a 1-1/4-inch stay-piece at each end, and fastened with four pieces of tape spaced at equal intervals. All seams were to be double, the ends cut square, and the opening button-hole stitched at both ends.[6] Once again, the bedsack was wider than the bunks it would occupy. The three models of single iron bedsteads authorized and in use in 1879 varied from 28 to 31 inches wide. It is no wonder that man and sack sometimes slipped off at night.

The only other item of bedding in general use before 1880 was mosquito netting, then commonly called "mosquito bar." It was in use as early as the 1820s[7] and probably had long been customary in mosquito-infested regions. The Medical Department used it extensively, making it a standard fixture of hospitals at least by the late 1840s.

The earliest surviving technical description is a specification dating from the Civil War:

> To be made of either cotton or linen of good quality. Double bars--72 inches long 60 inches wide. Single bars--72 inches long 30 inches wide 4-1/2 feet in height. Have a loop of white tape 4 inches long strongly sewed on all 4 upper corners. Double bar to have 2 additional loops of tape of same length 1/2 way between corner loops on each side.[8]

Along with bedsacks and pillow sacks, the mosquito bars were given new specifications in 1879, and like the other bedding, they no longer allowed for sleeping double:

> To be made of cotton or linen mosquito netting, and white cotton tape, equal in quality to the same materials in the standard sample.
>
> Seven (7) feet long, two (2) feet eight (8) inches wide, and five (5) feet eight (8) inches high.
>
> To be bound around top and down the four corners with white tape, and to have two (2) strings (white tape) nine (9) inches long, strongly sewed on each of the four (4) upper corners, and to conform in all respects to the standard sample.[9]

In other words, both the earlier and later mosquito bars were supposed to be oblong tents encasing the bedsteads in sheer drapery.

Bedding received less notice during the 19th century than did the wooden bunks it occupied for so long. One of the more descriptive reports was Meyers' account of his room at Governors Island in 1854:

> The beds consisted of a bedsack stuffed with straw, which was rolled up in the day time, and a pair of blankets, neatly folded, laid on top. There were no sheets nor pillows for the boys--the corporal was the only one who enjoyed these luxuries, and he had provided them himself. The boys slept on the bedtick and covered themselves with their blankets when it was cold, or used one of the blankets to lie on when it was warm enough, folding up a jacket or some other piece of clothing as a substitute for a pillow.[10]

That was a fair echo of Percival Lowe's account of accommodations a year earlier at Fort Leavenworth, Kansas: "A Bed sack, refilled with prairie hay (Arnold called it prairie feathers) once a month, and a pair of soldier blankets, with overcoat, or anything else one could utilize for a pillow."[11] Eugene Bandel found arrangements there little changed in 1856.[12]

Bedding received some attention in Billings' report on barracks and hospitals in 1870, but it paled in significance beside the double wooden bunks and the shabby, unventilated barracks. Most reports from the posts simply mentioned that the men slept on bedsacks filled with hay or straw, sometimes called "straw mattresses," "straw ticks," or "the usual bedding."[13] At Fort Laramie, Wyoming, some of the men were better off than the others:

> A few of the men have buffalo robes. The most of them are fain to protect themselves against the rigor of the winter by eking out their scanty covering with their overcoats. They nearly all complain of sleeping cold.[14]

A few reporting posts said that the straw or hay was changed monthly, one or two said the bedsacks were washed regularly, one or two more said that the bedding was of high quality, but none criticized the suitability of straw bedsacks for sleeping. The abysmal double bunks were of more pressing concern.

Five years later, however, when Billings repeated his survey of the Army's housing, one surgeon did condemn the straw-filled bedsack, proposing for sanitary reasons that "wire mattresses, hair pillows, and sheets be furnished for the troops. . . ."[15] That would not start to happen for almost a decade.

Notes

1. ARComGenPur 1839, 299. Specifications and related documents on bedding appear in appendix I.

2. Note that if striping were desired, the last specifications issued in the 1870s would probably have called for it, such by then being the Army's way. Note also the absence of striping on the drawing in appendix I. On the other hand, photographs of Civil War hospitals often reveal striped mattresses or bedticks.

3. Quoted in Chappell, "Barracks Furnishings," 23. Kummerow and Brown, Enlisted Barracks at Fort Snelling, 14, trace this to that "unpublished quartermaster manual of the Civil War period" discussed earlier.

4. ARQMG 1876, 126. The sacks received 4 pounds of straw, since the allowance went from 12 to 16 pounds.

5. Specifications adopted Mar. 12, 1879, in ROOMG, Miscellaneous Specifications, RG92; also in ARQMG 1879, 408.

6. Specifications adopted Mar. 12, 1879, in both the foregoing sources.

7. Kummerow & Brown, Enlisted Barracks at Fort Snelling, 15n, cite an 1829 source that treats it as an established norm on the Gulf Coast. The connection between anopheline mosquitoes and malaria, a major health problem in America during the 19th century (the Army called it "intermittent fever"), was not known until 1898, however. The insects were simply a nuisance.

8. Quoted ibid., traced to the unpublished quartermaster manual.

9. ARQMG 1879, 407; ROQMG Miscellaneous Specifications, RG92.

10. Meyers, *Ten Years in the Ranks* 2.

11. Lowe, *Five Years a Dragoon*, 76-77.

12. Eugene Bandel, *Frontier Life in the Army, 1855-61*, ed. Ralph P. Bieber (Glendale, Calif.: Arthur H. Clark, 1932), 102.

13. Billings, *Report on Barracks and Hospitals*, passim. See appendix A.

14. Ibid., 347.

15. *Report on Hygiene*, xviii.

23

BLANKETS

Probably the most traditional object supplied to soldiers, blankets were one of the few categories of barracks furnishings--albeit issued to the men, not for the barracks--that followed more or less standard patterns throughout the 19th century. Only during wartime did important deviations from standard occur to any significant degree. But although there was a gradual evolution of army blankets, and one major change of colors, some general characteristics persisted.

First, whether of cotton or wool, American army blankets seem always to have been twilled.[1]

Second, army blankets were usually napped, and specifications commonly demanded that the nap be "well raised."

Third, some specifications for army blankets during the 19th century required that they be fulled. Fulling, also called felting or milling, increases the thickness and compactness of wool by shrinking it 10 to 25 percent through the application of moisture, heat, friction, and pressure. The result is a smooth, compact, tightly finished product that may even resemble felt. This would have the effect, in wool blankets, of making them both more durable and more resistant to rain, as well as warmer.

Fourth, from the earliest evidence known, American army blankets were characterized by stripes at either end, generally about three inches wide. The stripes had a practical purpose, marking where single blankets were to be cut from the long strips in which they were loomed. Often they were cut into pairs for separation into singles when issued. In the earlier years many of the blankets also had "points," small stripes near one end, probably adopted from Hudson's Bay Company practice, each point usually representing about one pound of weight. And after 1821 the letters "U.S." in the center were distinctive of American army blankets. For many years, all of the markings were indigo in color, but that was eventually changed to black, then later to indigo again.

Fifth, the blankets themselves were supposed to be uniform in color. For many decades--until probably around the time of the Mexican War--the army blanket was white, actually the creamy white characteristic of Hudson's Bay Company blankets. Thereafter, the blankets were a rich, dark gray.

Finally, until the development of more sophisticated specifications after the Civil War, blankets varied slightly from one lot to the next, according to the whims of the purchasing officer and the methods of the supplier. During the emergencies of the War of 1812, the War with Mexico, and the Civil War, when large purchases were made in haste, all standards went out the window, in practice if not officially.

Most army blankets during the 19th century were of wool, which is superior to most other textiles for warmth, durability, and shedding water. But thousands of cotton blankets were also purchased from 1808 until at least 1814. A contract for cotton blankets let in 1808--typical of a number of such contracts from that and the next year surviving in the files--is unusually descriptive of the character, appearance, and weight of army blankets for several decades:

> Five hundred three point twilled cotton Blankets, to have at each end a broad blue stripe & none on the sides; also to have on the side near the said stripe at the rear end next to the [illegible--wearer?] three small blue points about five inches in length; the blankets to be of the weight of three pounds & one half each when finished, and to measure in the same state full six feet in length & full four feet seven inches in width; the pile or nap to be well raised on the upper side, and to be as well raised as may be conveniently practicable on the lower side.[2]

Whether of cotton or wool, the general dimensions of 3¼ to 3½ pounds, measuring 6 feet by 4½ feet, with blue striping, were fixed for some time, in contract after contract. But there was some minor variation inevitable because of the absence of more detailed requirements. One contractor in 1812 imparted the following to the Purveyor of Public Supplies:

> Although we were satisfied with the texture & firmness of our Blankets, yet it would have been pleasing to have had a pattern by which to make them, or to have had some specific directions by which to govern ourselves. We should then have been certain of their being accepted.
>
> We are constructing a Machine to raise the Nap which promises less danger to the Blanket than the common method of doing it by hand, and wish to know if you would delay the delivery of the first parcel a week or two to give it a trial, as the experiment was undertaken in consequence of your Recommendation.[3]

Evidently the purchasing authorities during this period experimented with different blankets, of different materials or manufactures, and often permitted the suppliers to offer their own innovations. In 1814, an officer of the 36th Infantry reported that he had "had the delivery of a number of Patent Blankets. I took notice they were very durable, they keep the wet or dampness from the soldier better than the Common Blanket [such as was usually delivered soldiers]. I think they answer better than the Indian Blanket. They only want a little more in length."[4] What the Patent blanket was is not now apparent, but later that year a purchasing agent reported that he was about to buy 3,000 or 4,000 pairs of cotton blankets, each blanket 2 yards long, 1½ yards wide, and about 3½ pounds in weight.[5]

The purchase of cotton blankets apparently ended with the War of 1812. Thereafter, wool was the rule, and by 1816 the common blanket had expanded in size, although with roughly the same weight. That suggests that, although the blanket was fulled, it was probably thinner than earlier models. In that year Irvine contracted in Philadelphia for

> six thousand Blankets, of Wool, Six feet six inches long, and five feet wide, each Blanket to weigh fifty-four ounces. They are to be scoured quite clean, and well fulled, and are to be in all respects equal to the Blanket in this Office, on which this Contract is founded.[6]

Although in later years the Army would maintain its own standard models as patterns, at this period the "blanket in this office" was that offered as a sample by the contractor and judged to be a suitable product. Variation from supplier to supplier continued to be the rule, and as late as 1836 Irvine was quick to demand improvements: "The narrow blue stripe for the blankets of indigo dye, and of finer wool than that in the blanket to which you have referred, is approved."[7]

The major change in army blankets between the wars with Britain and Mexico came after January 1821, when the secretary of war approved this proposal from Commissary General Irvine:

> As Army blankets are frequently sold or bartered by Soldiers particularly on the recruiting service and it is extremely difficult to establish clearly, that Blankets thus sold are public property and to prevent the exchange of good blankets for those of inferior quality, I suggest for your consideration the propriety of having all Army blankets marked in the center thereof with the letters U.S. with indelible liquid.[8]

Evidently army blankets were always of such quality as to be highly desirable commodities. But the marking did not end theft or sale of them. As late as the end of the century an army song celebrated an occurrence that had long been commonplace:

> O'Reilly swiped a blanket and shoved it up, I hear;
> He shoved it for a dollar and invested it in beer.
> He licked a coffee cooler because he said he'd tell.
> He's ten days absent without leave. O'Reilly's gone to hell.[9]

As late as 1836, the army blanket remained much the same as in 1816, according to a contract that year:

> The blankets required for the soldiers are to be 6 feet 6 inches long and 5 feet wide. To be twilled, to be made of good wool, to have the nap well raised upon them on one side, and a little raised on the other, and each blanket is to weigh 4 pounds--also to have a blue stripe on each end, of indigo, about three inches wide--otherwise the blankets are to be white and perfectly clear of all foreign matter.[10]

Except for the change in weight, to 4 pounds instead of just over 3, the blanket still retained its longstanding dimensions. But sometime after that date, probably just after the Mexican War, the standard army blanket became larger and gray in color. Just when the change was made, and who decided the question, is not recorded, but it probably reflected both the difficulty of keeping blankets clean and the evolving manufacturing and dyeing technology of the textile industry. It is also likely that the Army recognized that its men needed blankets that were larger, heavier, and warmer. Not until 1861 did the appearance of the blankets become a subject of regulations:

> Blanket--woolen, gray, with letters U.S. in black, four inches long, in the centre; to be seven feet long, and five and a half feet wide, and to weigh five pounds.[11]

The standard army blanket retained essentially that appearance (including black end stripes not mentioned) until 1876. But looks aside, one other thing seemed never to change: When faced with an emergency, the Army never had enough blankets, at least not where they were needed. Troops in winter quarters at Camp Scott, Utah, in November 1857 during the Mormon "war," had only 723 blankets available for about 2,500 men. Supplies were backed up farther east because wagons were in short supply; the expedition had been organized too hastily.[12]

Even worse shortages developed at the start of the Civil War, such that in October 1861 the quartermaster general published the following plea in newspapers around the country:

> The troops in the field need Blankets. The supply in the country is exhausted. Men spring to arms faster than the mills can manufacture, and large quantities ordered from abroad have not yet arrived.
>
> To relieve pressing necessities, contributions are invited from the surplus stores of families.
>
> The regulation army Blanket weighs five pounds; but good, sound woolen Blankets weighing not less than four pounds, will be gladly received at the offices of the United States Quartermasters in the Principal towns of the loyal States, and applied to the use of the troops.
>
> To such as have Blankets which they can spare but cannot afford to give, the full market value of suitable Blankets, delivered as above, will be paid.[13]

As a result of such requests, not to mention hasty purchases of whatever was available, all sorts of nonstandard blankets appeared in camps and hospitals, especially during the first year of the war. Among them were the infamous shoddy blankets, but they disintegrated so rapidly that they could not for long be described as a significant presence in the quarters of the enlisted men.

The Quartermaster Department endeavored, not always successfully, to maintain minimum standards for acceptable substitutes for the regulation gray, 5-pound blanket. It demanded that only wool be supplied, but it was willing to compromise a little on the weight; it tried to retain the gray color, but things were not always as it wished them to be. As a result, a large share of the army blankets issued during the war were brown or tan in color (at least after exposure), with a good number of examples surviving today.[14]

Browns and tans were common among Civil War blankets because the technology required for high-quality gray dyeing was too complex to meet all wartime demands. As almost every Civil War enthusiast knows, the "Blue and Gray" were more generally the "Blue and Butternut," because improvised dyes used in most Confederate uniforms broke down in air and light, assuming the color of butternut instead of the regulation cadet gray--a color that itself owed its first appearance in the Army to shortages of blue uniform coats during the War of 1812 (or so tradition holds).[15]

The nonstandard brown and tan blankets of the Civil War were usually a mixture of gray-turned-brown yarns and unbleached, undyed yarns, with the stripes and letters U.S. of several shades of brown. The letters were sometimes woven or stamped into the blankets; sometimes they were crudely stitched as outlines--suggesting that some manufacturers may have intended to supply both sides of the conflict. The stripes appear to have been mostly interwoven. Otherwise, the nonstandard blankets generally resembled their standard gray counterparts, in form if not quality.

The Army also conducted its first experiments (outside hospitals) with waterproof blankets during the Civil War. By the end of the war the Quartermaster Department had settled on no single type, using both india-rubber and gutta-percha models. Most of them had a straight slit and flaps so they could be used as ponchos, with grommet holes at 14-inch intervals around the edges so they could be joined into shelters.[16] One veteran, who recalled that the chief advantage of sharing a bunk was that two men could thereby share two blankets, applauded the rubberized blanket. It could be used as an undersheet in bunks, just as it had served as a groundcloth outdoors, to keep the users warmer. In upper bunks in huts the men used the waterproof blankets as top sheets to repel leaking rainwater.[17]

For a few years after the war the Army drew its blankets from surplus stocks. Whether any nonstandard blankets were issued is not recorded but is doubtful. By the early 1870s procurement had to resume. Reviewing what was available on the market, the Quartermaster Department decided in 1872 to adopt as an army standard a blanket offered by Mission Mills of San Francisco. Meigs reported that the new blanket featured better material and workmanship than any previously furnished. Mission Mills received a contract to supply the Army on the Pacific Coast, and after competition another contract was awarded to Sevill Scofield for the rest of the Army. "This blanket costs more than the old one," Meigs said, "but it is warmer, softer, and will be more durable than any heretofore issued."[18]

In basic appearance, the blanket remained as required by the 1861 regulations: 7 by 5½ feet, weighing 5 pounds. Otherwise it was

> to be gray in color, and made of pure long-staple wool, free from shoddy, reworked wool, or cotton, or any impure materials; to have the letters "U.S." in black, four (4) inches long, in the center, and to bear a strain of not less than twenty-five (25) pounds per inch for the warp and thirty (30) pounds per inch for the woof (weft) without tearing. Note: It is immaterial whether the letters "U.S." be stamped on the blanket or woven into the fabric.[19]

That was the most detailed technical specification to appear so far, but oddly enough it neglected to mention the stripes on the blanket ends. But they surely appeared on the standard contract pattern blanket, and therefore on all blankets issued, because they were mentioned as a matter of fact in a later report of the quartermaster general. He said they were black like the letters in the center.[20]

In 1875 the Quartermaster Department finally recorded its specifications for rubber blankets, but in a fashion that suggests that they had been in force in the Philadelphia office for some time:

> Blankets, Rubber. To be made of good strong unbleached muslin coated with India Rubber vulcanized; to be 46 inches

> wide and 7 inches [sic] long, and be provided with brass grommets.
>
> A piece of stront webbing 24 inches long for the purpose of tying on blanket with two extra grommets for same.
>
> The grommets to be one inch from their centres to the edge of the blanket on one side and end, and two inches to the other side and end. The grommets must be stayed and placed equi-distant 14 inches apart so as to match.
>
> Edges to be strengthened with an extra strip of rubber.
>
> Furnished from Phila. Depot by Col. Easton March 2nd 1875.[21]

It is unlikely that the length of the rubber blanket was either 72 inches or 7 feet, not 7 inches. It appears to be consistent with those used in the Civil War. except that a single fabric and sealant had been settled upon at last. The rubber blankets were issued for field service, to be used as ground sheets and shelters from the rain. Technically speaking, there fore, they were not an item properly furnished in barracks, except as soldiers had them among their equipment. However, with leaky roofs common on the Army's shabby housing, it is likely that they would be found in use as needed.

Another change in Army blankets came in 1876 and was caused by persistent difficulties in black dyeing. Meigs reported that year, "As the black stripe and letters "U.S." now used to mark the Army blanket, appear to injure its durability, arrangements have been made to substitute indigo-blue letters and stripes in future contracts."[22] New specifications for the blanket, adopted in August 1876, changed the color and specifically required the stripes. But they went beyond that, evidencing an ever strong trend in army procurement toward technical precision and meticulous detail:

Specifications for Woolen Blankets. Each blanket is to be seven (7) feet long and five (5) feet six (6) inches wide, and to weigh five (5) pounds. To be gray in color, and made of pure long-staple wool, free from shoddy, reworked wool or cotton, or any impure materials; to have the letters "U.S." in dark blue, four (4) inches long, in the center; to bear a strain of not less than twenty-five (25) pounds per inch for the warp, and thirty (30) pounds per inch for the woof without tearing, and to have not less than twenty-two (22) threads of warp and twenty-five (25) threads of filling or woof to the inch. The threads to be well driven up. The stripes at ends of blankets to be dark blue, of pure indigo dye.

NOTE.--It is immaterial whether the letters "U.S." be stamped on the blanket or woven into the fabric; their color must be pure indigo dye.

Adopted by the Secretary of War August 23, 1876, in lieu of the specifications adopted August 15, 1873.[23]

Notes

1. For explanations [illegible] textile technology in this chapter I rely on the excellent article on the "Textile Industry," Encyclopedia Britannica, Macropedia vol. 18:170-89. Specifications and descriptions of blankets appear in appendix J.

2. Contract to Joseph Garlick and Daniel McGinnis, by Coxe, June 15, 1808, QMConFile--Blankets, RG92.

3. C. Hashfield to Coxe, Feb. 28, 1812, QMConFile--Blankets, RG92.

4. Statement of Lieut. W.C. Hobbs, dated George Town, July 19, 1814, QMConFile--Blankets, RG92. The "Indian Blanket" may have been Hudson's Bay Company.

5. P.M. Kell to Irvine, Dec. 29, 1814, QMConFile--Blankets, RG92.

6. Contract to McCallmont and Reilly of Philadelphia, 1816, QMConFile--Blankets, RG92.

7. Irvine to Richard Kimball, Feb. 8, 1836, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 15.

8. The correspondence is presented as an appendix in Enlisted Barracks at Fort Snelling.

9. "O'Reilly's Gone to Hell," in Dolph, Sound Off, 54-66. Dolph says this song, which celebrates a number of "O'Reilly's" escapades, was written by Col. Gerald E. Griffen in "tribute" to the Irish sergeants of the old Army.

10. Irvine to Messrs. Burnham and Barker, Dec. 12, 1836, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 15.

11. 1861 Regulations, par. 1571. Support for the suggestion that the larger gray blanket was introduced much earlier may be found in the 1851 listing of the shipping weights of equipment for one dragoon--a man's blanket and his horse's together weighed 9 pounds. ARQMG 1851, 253.

12. Risch, *Quartermaster Support*, 326.

13. Clippings of notice, Oct. 1, 1861, QMConFile--Blankets, RG92.

14. The following description is based on information in Chappell, "Barracks Furnishings," n.n. See appendix J for detailed descriptions.

15. On butternut, see for example *American Heritage Picture History of the Civil War* (New York: American Heritage, 1960), 363. Weigley, *History of the United States Army*, 144, discusses the tradition that the gray of West Point uniforms follows that worn by the regulars at Chippewa and Lundy's Lane.

Recent research (see appendix J) supports the contention that Civil War cloth goods were mostly gray when dyed, then turned brown upon exposure--not brown or butternut to begin with. William L. Brown III to the author, Jan. 13, 1982. The substandard dyes were not tolerated in smaller purchases before and after the war but probably were unavoidable during the wartime procurement crisis.

16. Risch, *Quartermaster Support*, 359.

17. Billings, *Hardtack and Coffee*, 73-78.

18. ARQMG 1872, 141-42.

19. Quoted in Chappell, "Barracks Furnishings."

20. ARQMG 1876, 127.

21. ROQMG, Miscellaneous Specifications, RG92.

22. ARQMG 1876, 127.

23. ARQMG 1877, 269; also in ROQMG, Miscellaneous Specifications, RG92.

24
LIGHTING

For a century after the Revolution, candles afforded the only authorized source of artificial light in barracks. They were not actually provided for buildings, but to men with their rations in pitifully small quantities fixed by law. Candles had to light not only the men's quarters but guardrooms and noncommissioned officer's quarters as well. With only a pound and a half of soft candles accompanying each 100 pounds of rations, it is likely that administrative requirements for candles meant that barrack rooms--especially during the decades when most barracks were divided into many small chambers--went mostly unlighted except for illumination from open fireplaces. Few barracks had adequate lighting even during daylight, because few had sufficient windows, often none at all. When darkness fell, the men went to sleep--or, like moths to a flame, to well-lighted sutlers' shops, groggeries, or brothels. Perhaps because Americans generally had primitive lighting in the early decades of the 19th century, the dimness of army quarters elicited little contemporary comment until the last years of the candle's dominance. There were, after all, worse aspects of barracks life than the fact that the squalid conditions were hidden in darkness.

It is reasonable to suppose that, especially as stoves began to replace open fires during the three decades before the Civil War, soldiers at many posts found ways to increase the light available to them. Extra candles, for instance, could be purchased with personal or company funds from sutlers or other merchants. With a little ingenuity, it also would be possible to fashion a variety of simple lamps from materials readily at hand in the barracks. Perhaps the simplest is the "slush lamp," made of grease or oil in a basin of some sort, with a string or rag for a wick--actually the oldest form of lamp, with many examples surviving from ancient times. Soldiers could easily make basins from clay, wood, or unserviceable kitchen or eating utensils; when canned foods came into general distribution, lamp basins were ready-made.

Fuel for such lamps would not be in short supply; the Army's greasy diet afforded plenty. In fact, kitchen grease was a popular source of lamp fuel before the Civil War. Describing the return of his ship to Boston in 1836, Richard Henry Dana, Jr., listed matter-of-factly the various personages who greeted her at the dock, including "dealers in grease, besieging the galley, to make a bargain with the cook for his slush. . . ."[1]

Of candle holders and other such luxuries before the Civil War, there is no record. It is doubtful that soldiers would often have found them worth the price, except as they might fashion their own from wood. A hole in a block would have held any candle well enough. Because neatness (including clean tables) was required by regulation, it can be surmised that even candles set into their own drippings would have adorned blocks or wood plates rather than the tables or benches directly. In later years, bottles would have made convenient candle holders.

Other sources of lighting may be judged possible but unlikely. Wooden firebrands--like those that adorn castles in vampire movies--are easily made from pine knots or by soaking knots, cones, or hardwood stick ends in pitch or grease. But they would have been very dangerous in barracks and probably forbidden for that reason. Commercial lamps and fuels would have required significant expenditures of company funds, but is it known that they became common enough in barracks after the Civil War that they were outlawed for safety reasons in 1869.

The candle ration was modified to allow three types of candles at the start of the Civil War, but it was not increased. In describing life in winter huts during the war, one veteran recalled, "For lighting these huts the government furnished candles in limited quantities: at first long ones, which had to be cut for distribution; but later they provided short ones." The supplies, he said, were undependable. Sometimes they were plentiful, other times scarce. And only infantrymen enjoyed "official candlesticks"--bayonets, the sockets of which fitted candles very nicely. "Quite often," he said, "the candle was set upon a box in its own drippings."[2] But there were alternatives:

> Whenever candles failed, *slush lamps* were brought into use. These I have seen made by filling a sardine box with cook-house grease, and inserting a piece of rag in one corner for a wick. The whole was then suspended from the ridgepole of the hut by a wire. This wire came to camp around bales of hay brought to the horses and mules.[3]

The major change concerning barracks lighting after the Civil War was the growing volume of complaints from officers and men. No longer did they silently accept conditions markedly worse than those in the civilian world. Soldiers now were better educated and paid than before, and more of them hailed from well-lighted urban homes. The contrast between army barracks and civilian houses was too much to bear, especially when the soldiers' attempts to provide their own lighting were thwarted by regulation.

Conditions of lighting did not change until the distribution of authorized, general issue lamps in 1882. Before that date, one officer could fairly describe the men's quarters as "our dungeon barracks with the men huddled around the flickering flame of one or two candles . . . such a hole."[4] Any better lighting was unauthorized and therefore uncommon.

If there was any evolution in barracks lighting between 1800 and 1880, it is likely that most candles were probably of tallow in the earlier years, sperm in the middle decades, and adamantine (white paraffin) in the later period.

BE PY AVAILABLE

Notes

1. Richard Henry Dana, Jr., *Two Years Before the Mast* (orig. 1840; exp. ed. 1869; Classics Club ed., Roslyn, N.Y.: Walter J. Black, n.d.), 377. Profits from the sale of galley slush may sometimes have been among the perquisites of the cook's position. But more commonly, especially in the navy where everything was public property, the proceeds were deposited into a "slush fund," which could be spent for the benefit of the crew at the discretion of the captain, much like company funds in the Army. I have found no record of the sale of army slush during the 19th century, although that may have occurred where there was a civilian market for it. If it did occur, proceeds probably went into the regular post or company funds rather than a separate "slush fund."

2. Billings, *Hardtack and Coffee*, 72-73.

3. Ibid., 73.

4. Quoted in Foner, *United States Soldier Between Wars*, 18.

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HEATING

For 50 years after the Revolution, the only source of heat authorized for the Army's quarters was open fireplaces, which were fueled with wood cut by the men. An 1820 drawing of Cantonment Missouri, Nebraska, shows fireplaces apparently lined with clay and fronted in brick, with flat-arched openings. The chimneys were of sticks and mud.[1] The huts at simpler army posts usually had nothing more than log-and-mud fireplaces with chimneys, usually exterior, of the same materials.

Such arrangements did not work well. Short, improperly constructed chimneys would not draw, filled rooms with smoke, and required continual reconstruction. They were also hazardous, consumed prodigious quantities of wood (limited by regulations), and were inefficient for cooking or heating. Cooking, in fact, was often the principal purpose of the fireplaces, as at times the wood was rationed according to the number of kitchen fires. The fireplaces in the early decades were therefore routinely fitted out with culinary accessories. A list of materials required for the construction of barracks and buildings at Cantonment Oglethorpe, Georgia, in 1826 included "Fire hook and chain . . . $10.00."[2]

So the men choked and shivered, and warmed themselves with rum or whiskey, but said little more about barracks heating than about lighting. The first modern heating appliances for Army quarters, in 1831, were six anthracite grates for the hospital and six more for officers' quarters at Fort Monroe, Virginia. Thereafter, stoves of various types began to replace open fires where the conservation of wood was important. At Fort Atkinson, Iowa, in the fall of 1843, Croghan had something to say about the heating of the buildings:

> A requisition of 19 stoves for the hospital and officers' and men's quarters has been forwarded to the quartermaster at St.

> Louis, which I trust may be immediately met, so that they may be here before the commencement of the winter. Many of the chimneys smoke so badly that no comfort can be expected without stoves, and more than this, a great saving of fuel will be made, for to supply the fireplaces the daily labor of 25 axe men and five teamsters is requisite during the winter, whereas 10 axe men and 2 teamsters can supply the stoves.[3]

Stoves continued to multiply in the Army. During the winter of 1854-55, at Carlisle Barracks, Pennsylvania, one soldier recalled, "The rooms were heated by stoves in which we burned wood. They were comfortably warm during the winter, which I found less severe in Southern Pennsylvania than in New York."[4] At Fort McHenry, Maryland, that same season, there were 17 stoves, including one each in the guardroom and prison room, and six split between the two company quarters. But one stove in each barrack had been condemned, along with three others around the fort. In requesting replacements, the responsible officer had to justify the use of stoves by citing the fort's "special climatic circumstances."[5]

Things were not hospitable during a terrible winter at Fort Pierre, Dakota, the next year. The men there lived in thin-walled portable wooden houses, officers and soldiers suffering alike. "Each house," a survivor of that season reported, "was furnished with two sheet iron stoves for burning wood, and had stove pipes passing through the roof." The buildings all, despite the stoves, were frigid during the winter.[6]

The unregulated and accordingly sporadic appearance of stoves here and there prompted the quartermaster general in 1857 to urge both the general adoption of stoves throughout the Army and a policy on their supply, but he was not heeded. The result was that there was no general pattern of stoves installed in barracks; many of them were of low quality. At the end of 1858 Fort McHenry's quartermaster reported that the barracks stoves purchased the year before had worn out and been sold. He suggested that he would either have to get new stoves or repair the chimneys and buy fenders and andirons. Because stoves were safer and more economical, he recommended the former course of action.[7]

As with nearly every other convenience, the soldiers were left to their own devices to heat their winter quarters during the Civil War. "The fireplaces," said a veteran, "were built of brick, of stone, or of wood." The stick chimneys were laid up on the outside of the huts and usually had so little draft that the huts filled with smoke.[8]

The absence of standards and policy continued after the Civil War. At Fort Cummings, New Mexico, all the quarters in 1867 were heated with large open fireplaces because there were no stoves.[9] But at Fort Laramie, Wyoming, in 1870--a year when the Army spent almost $23,000 on stoves of unknown types[10]--the men complained bitterly about the cold, although all their barracks were heated by stoves of some sort.[11] Four years later, at Fort Robinson, Nebraska, which was then under construction, the surgeon attributed a delay in shipment of heating stoves to "criminal neglect."[12]

Standard designs for stoves and ranges were finally adopted in 1875, and thereafter some uniformity began to appear in the way the Army heated its barracks. But not even that measure could eliminate all the variations between different posts. At Fort Stevenson, Dakota, in 1879, an inspection report revealed that each dormitory was heated by three coal stoves, but in an incredibly amateurish and dangerous way: The stove pipes all entered the brick chimneys above the "tie beams" (there were no ceilings) very near the roofs.[13]

Notes

1. See appendix B.

2. *Report of the Quartermaster General upon the Subject of Barracks, Storehouses, Hospitals, &c.*, H. Doc. 61, 19 Cong. 2 Sess. (1827), 7.

3. Prucha, *Army Life*, 49.

4. Meyers, *Ten Years in the Ranks*, 36.

5. E.B. Babbitt to Jesup, Jan. 18, 1855, QMConFile--McHenry, Fort, RG92.

6. Meyers, *Ten Years in the Ranks*, 72.

7. Lieut. J. M. Robinson to Maj. M.M. Black, Nov. 6, 1858, QMConFile--McHenry, Fort, RG92.

8. Billings, *Hardtack and Coffee*, 46-47.

9. William Thornton Parker, *Annals of Old Fort Cummings, New Mexico, 1867-68*, an excerpt from Parker's 1919 memoirs (Ft. Davis, Tex.: Frontier Book Company, 1968), 23.

10. ARQMG 1870, 184.

11. Billings, *Report on Barracks and Hospitals*, 347.

12. Roger T. Grange, Jr., "Fort Robinson: Outpost on the Plains," *Nebraska History*, 39 (Sept. 1958):203.

13. Mattison, "Old Fort Stevenson," 33-34.

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MESS FACILITIES

According to the regulations, soldiers were to be provided camp kettles among their camp and garrison equipage; later, iron pots could be substituted for the kettles when troops were in garrison or winter quarters, where they ate in larger groups than in the field. For anything else, it would appear, the men were on their own. But that flies in the face of common sense and is contradicted by the fragmentary evidence. Even the regulations, by 1821, assumed that there would be meat hooks and bread shelves in the barracks; and some other utensils had to be used to cook and serve food.

Mess pans appear to have accompanied the supply of kettles from the outset, albeit on no stronger authority than custom. In 1813 a supplier named William Romy offered to provide "a quantity of Camp Kittles at 25 Cts per Lbs & a quantity of Mess pans at 70 Cents per piece . . .," along with axes and chains.[1] Mess pans, which were described in later years and distributed in fixed numbers, were not for eating but rather for serving; food removed from pots or kettles was placed on tables in mess pans.

The provision of separate kitchens and mess rooms seems for many years to have depended upon how elaborate and large a given post was. At a substantial place like Cantonment Missouri in 1820, mess rooms about twice the size of barrack rooms, adjoining separate, tiny kitchens, were provided for two regiments.[2] But more often than not, the primitive posts in the early decades probably lacked separate facilities; the men cooked and ate, probably on homemade tables, in the rooms where they slept. But even at Cantonment Missouri, as late as February 1820 an officer complained that there were not enough tables or shelving to contain "table furniture and fragments of provisions."[3] "Table furniture," of course, meant eating utensils--plates, forks, spoons, and so on.

The preferred material for cooking utensils was iron throughout the 19th century. But other materials apparently could be used as well, and beginning in 1821 and continuing thereafter, for very sound but unmentioned reasons, the regulations required that "those [cooking utensils] made of brass or copper will not be used unless they be lined with tin."[4]

There are few good descriptions of the Army's eating arrangements in the early 19th century; frequently only the state of kitchen or table cleanliness was reported by inspectors or surgeons. An unusually informative account of a mess room, one probably dolled up for an inspection, came from the Post at Alexandria, Virginia, in 1820:

> In the company mess room. I found a range of tables, neatly garnished with clean table clothes and the requisite furniture for dinner. I found a non-com presiding at the end of each table, with an ample turene of excellent turtle soup before him, from which he was helping his mess mates.[5]

The men at Alexandria lived in "permanent" quarters, which were generally larger and somewhat more elaborate than the "temporary" quarters of the frontier. But it is likely that the trend toward separate cooking and eating rooms was well established everywhere by the 1830s, to the extent that circumstances would permit.

There is little reason to believe that the basic furniture of kettles, mess pans, and mess cans--as well as other essential utensils--changed in character in any important way for many decades. A specification for those items in an 1831 contract might well describe those used for many years before and after:

> [The camp kettle is to be] made of the best American sheet iron and in the best manner as to workmanship. Seams neatly and tightly closed, the camp kettle having a well sized smooth and perfectly round base. Camp kettle in heighth 11-1/2" in dia. 12", 17 lbs. 12 oz.

> There are to be two smaller sized kettles, made to fit into each other neatly as a nest of three. These are furnished by the pound.
>
> Mess pan--dia. at top 11-1/2" and trifle more than 8-1/2" dia. at bottom. These are furnished by the piece. Height of mess can 5-1/4" both are neatly turned at the top over a stout wire.[6]

The use of round-bottom kettles (round bottoms are presumably seamless and more durable, and spread the heat of an open fire more evenly, than flat bottoms) would suggest the need for either hangers or trivets during cooking. Outdoors, pole frames and ropes could suspend kettles well enough, but indoors metal cranes, chains, frames, or trivets would be required. It is not surprising, therefore, that in 1826 a "Fire hook and chain . . . $10.00" was a routine element of a barrack constructed at Cantonment Oglethorpe, Georgia.[7] The larger pots, however, had legs.

Croghan reported separate kitchens and mess rooms at Fort Pike, Louisiana, in 1844, where "the kitchen and its utensils, the mess room, and mess furniture are in good condition. . . ."[8] At New Orleans Barracks the same year, he said, "The mess rooms and kitchens are as clean and neat as any one could desire."[9] Even at Fort Washita, Oklahoma, a rather more primitive place, he stated, "The kitchens and mess rooms are in good order, but having dirt floors, they can not be made to look very neatly. One of the ten companies, G, spreads its table under a shed, which I take for granted will be boarded up before the cold weather sets in."[10] It would appear that separate cooking and eating rooms had become standard practice at least by the 1840s.

The transition from cooking over open fires to cooking on ranges probably paralleled the transition to heating stoves, if it did not come slightly ahead. The event probably occurred first at "permanent" posts and others given more substantial construction than the usual. At Fort McHenry, Maryland, where the heating stoves routinely fell apart, the kitchens fared somewhat better in 1857:

> No. 1 Cook room . . . has had cook range repaired, new lock on door, plastered and repainted, wants floor [illegible] cook range repaired. No. 2. Cook room . . . cook range repaired, new locks on door, plastered and repainted.[11]

Kitchen ranges commonly were built-in brick structures with iron fittings. The plans for those presented in the barracks regulations of 1860 probably were representative of those actually built before and after the Civil War.[12] It should be noted, however, that those same plans still supposed that the buildings themselves should be heated with open fireplaces, not stoves.

As late as 1875 Dr. Billings and his colleagues protested the fact that companies were not issued "mess furniture," but must provide their own. It might be supposed that the men did not receive eating utensils from the Army, but there is reason to believe otherwise. It is highly possible that, even if inconsistently through the 19th century, such necessities were part of the personal field equipment issued to recruits along with their uniforms, blankets, and the like. Augustus Meyers recalled the outfitting of recruits as they were about to be shipped to their regiments from Governors Island, New York, in 1860:

> One morning a few days later we formed on the parade ground, fully equipped with knapsack, haversack, tin cup, tin plate, knife, fork and spoon, a canteen and three days' rations of boiled salt pork and hard bread stowed in our haversack, but without arms.[13]

Kitchens and mess rooms at Civil War training camps were in buildings separate from the barracks. The mess buildings were generally occupied by long, single-unit bench-and-table structures somewhat resembling modern picnic tables, nailed together in the plainest fashion. A photograph of one ready for use shows the tables covered with white cloths and a complete tin setting at every place--cup, canlike bowl with handle, plate, knife, fork, and spoon. The picture was probably taken during a holiday, as there were floral centerpieces distributed down the tables. The room was lit by hanging lamps (presumably) with picture-painted shades.[14]

Movable iron ranges probably became more common after the Civil War. The enlisted men's mess facilities at Fort Laramie, Wyoming, in 1870 "all are provided with cooking-stoves, tables, and benches. Most of the companies are in possession of good mess furniture, consisting of delf plates, bowls, and knives and forks," according to the post surgeon.[15]

At Fort Davis, Texas, in January 1870 the company kitchens were inconsistently maintained, but at least the sloppiness of the cooks led the post surgeon to identify some of the kitchen furniture:

> B. Co. . . . Kitchen in all respects, in very good condition.
>
> C. Co. . . . Kitchen, neat and clean except tables.
>
> K. Co. . . . Kitchen--Range not clean, table dirty, shelves in cupboard dirty, Provision boxes and packs for the same dirty.

Two days later he discovered:

> C. Co. . . . Kitchen clean. Provision boxes also.
>
> K. Co. . . . Kitchen, Range dirty. Cupboard in which dishes are kept dirty.[16]

For two years the surgeon kept after the men at Fort Davis, regarding their untidiness, but as he prepared to depart the place in May 1872, he complained, "The mess rooms and kitchens are not plastered--have earth floors--and are equally as dirty and untidy as the barracks."[17]

The adoption of the new stoves and ranges in 1875 eventually led to the standardization of such equipment in army kitchens. Besides the ranges themslves, the stove regulations provided for the first time an enumeration of their "trimmings":

> The following is a list of the trimmings for these ranges:
>
> Tin trimmings:
> - 1 wash-boiler.
> - 1 coffeeboiler.
> - 1 steamer.
> - 1 teakettle, (iron or tin.)
> - 3 bake-pans.
> - 1 potcover.
>
> 1/16 inch cast iron:
> - 2 pots.
> - 2 skillets.
> - 2 griddles.
> - 1 iron-heater.
>
> Sheet iron No. 26:
> - 3 joints pipe.
> - 1 elbow.[18]

That list of stove utensils, which was supposed to be sufficient for one company of soldiers and which was further refined in 1876, had probably been in use in barracks for some years. But except for the issue of kettles in camp and garrison equipage (which stilled prevailed after 1875, separately from the furniture of barracks ranges), stove utensils had not been specifically sanctioned by regulations.

During its compilation of supply specifications in 1875, the Quartermaster Department recorded those for pots and camp kettles, once again in a fashion suggesting that they had prevailed in the Philadelphia purchasing office for some time:

Pots: Iron. To be of cast iron, diameter outside at rim 15-3/8 inches, depth inside 11-1/2 inches, with three legs on bottom, 3-1/2 inches long; ear on opposite sides of the top for the bail.

The latter to be of round iron 7/16 of an inch diameter. Capacity 6 gallons. Weight 35 to 37 pounds.

Furnished from Phila Depot by Col Easton March 2nd 1875.

Kettles, Camp. To be of three sizes made of good American sheet iron, and so as to fit into each other in nests of three, viz: No. 1, the largest size should be 12 inches diameter and 11-3/4 inches deep: to contain 4-1/2 gallons.

No. 2. 10-1/4 inches diameter, 11-1/2 inches deep. to contain 3-1/2 gallons. No. 3. 8-1/2 inches diameter, 11-1/4 inches deep and to contain 2-1/2 gallons.

To have iron wire bails 5/16 of an inch in diameter, the ends to be drawn to a point.

Rim to be formed over a heavy iron wire.

Weight of nest of three kettles 17 to 17-1/2 pounds.

Furnished from Phila. Deport by Col. Easton, March 2nd 1875.[19]

Notes

1. QMConFile--Kitchen Equipment 1813, RG92.

2. See appendix B.

3. Johnson, "Cantonment Missouri," 125.

4. 1821 Regulations, 12; for another example, see 1835 Regulations, 46. Continued cooking in utensils containing copper, a very active chemical element, can taint the taste of food and lead to heavy-metal poisoning. Tin is chemically less reactive than copper, brass, iron, or steel.

5. Inspection report of Col. William McRae, June 1830, quoted in Kummerow and Brown, *Enlisted Barracks at Fort Snelling*, 20.

6. Irvine to Robert Dingee, Feb. 5, 1831, quoted ibid., 24.

7. *Report of the Quartermaster General upon the Subject of Barracks, Storehouses, Hospitals &c.* (1827), 7.

8. Prucha, *Army Life*, 67.

9. Ibid., 68.

10. Ibid.

11. J.L. Donaldson to Lieut. Col. H. Brooks, July 3, 1857.

12. See appendix B.

13. Meyers, *Ten Years in the Ranks*, 160. Meyers had first joined the Army as a musician boy in 1854, then reenlisted as a soldier in 1860.

14. Soldiers' Dining Room, Civil War Training or Convalescent Camp, National Archives neg. B-4064.

15. Billings, *Report on Barracks and Hospitals*, 347.

16. Medical History of Fort Davis, Jan. 5 and 7, 1870.

17. Ibid., May 1872.

18. See appendix C for the stove regulations. An "iron-heater" was used to warm clothes irons, and was usually a small trivet.

19. ROQMG, Miscellaneous Specifications, RG92.

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OTHER CONTENTS OF BARRACKS

The minimum furnishings of a barrack--where there was any furniture at all during the 19th century--were the bunks of the men. As late as the 1870s some places had nothing else. Sometimes other contents of barracks received specific mention in contemporary reports. For instance, during the construction of barracks and other quarters at Cantonment Oglethorpe, Georgia, in 1826, the quartermaster spent $25.00 on fire buckets.[1]

There were other objects in most barracks, however. Craftsmen among the troops were permitted by regulations to construct benches and tables, as well as bunks, with tools and materials provided by the quartermasters. But very often the exact nature of barracks contents in a specific case can be inferred only indirectly. One of the buildings at Hancock Barracks, Maine, burned down in February 1833. Afterwards, officers, noncommissioned officers, and enlisted men together petitioned the Congress for compensation for

> a considerable loss of furniture and personal apparel; that this loss was greatly increased by their personal exertions having been principally directed to the preservation of the other buildings, and for which purpose the carpets and blankets belonging to both officers and men were used, and partially or wholly destroyed. . . .[2]

In 1838 Croghan complained loudly about the worn-out articles carried on the inventory at almost every post, because "they serve but to lumber up the store rooms." Objects of his attention included such things as kettles and hoes that were no longer serviceable.[3] At Fort Washita, Oklahoma, in 1844, each company stored its supply of cartridges in its own storeroom because no magazine had yet been built at the post.[4]

At Fort Leavenworth, Kansas, in 1853, there was an interesting addition to the barracks of one company. The company commander organized a subscription among the officers, noncommissioned officers, and enlisted men to raise funds for a company library, which was delivered in February. It included a set of "Harper's Classical and Family Libraries," according to one person who was there.

> A pair of book cases, with hinges closing the edges on one side, and two locks the edges on the other side, held the library of uniform size and binding. When open the title of each book could be read, and when closed no book could move or get out of place; the books were all the same length and breadth, and an excellent collection.[5]

Where the bookcase was located was not recorded.

The next year, according to Augustus Meyers--who had surely one of the best memories for details among enlisted men of the 19th century--the musicians' training barracks at Governors Island, New York, was well appointed indeed:

> A wide shelf around the room above the beds provided space for knapsacks, extra shoes, drums, fifes, and other objects, and on hooks under the shelf were hung the overcoats. There was a coal fire burning in the grate. A few wooden benches and a chair for the corporal in charge; this, with a water pail and a tin cup on a shelf behind the door, completed the furniture of the room.[6]

At Fort McHenry, Maryland, it was reported without elaboration in 1857 that both barracks "have had new locks on doors."[7]

Only a few enlisted men in the 19th century left detailed descriptions of their personal effects. Among them was Eugene Bandel, a German immigrant who was a corporal in the 6th Infantry during the late 1850s. Because he was both a noncommissioned officer and the company armorer, he was unusually well endowed and, among other things, was allowed to retain and transport a chest of tools (most of which he had made himself), which afforded extra space for other things:

> So far as books are concerned [he wrote to his mother from Fort Leavenworth in 1857], the lack of which I feel, as you may well believe, you are mistaken. Here a soldier is not, as in Germany, limited to his knapsack. For instance, I have a large chest full of tools, a trunk full of underwear and clothing, and a small chest of miscellaneous matter, such as books, tobacco, and the like. Then, too, I have two knapsacks (quite different from the German knapsacks which, however, no soldier here carries at all) full of soldier clothes and bedding, consisting of two woolen blankets and a buffalo fur. Consequently you will see that, although not all of the soldiers, nor even most of them, have as many chests, boxes, and packages as I have, it requires many wagons to transport a regiment across the prairies. . . .[8]

Even in the rude huts of winter quarters during the Civil War, the soldiers were able to add personal touches, according to one veteran:

> Many of these huts were deemed incomplete until a sign appeared over the door. Here and there some one would make an attempt at having a door-plate of wood suitably inscribed; but the more common sight was a sign over the entrance bearing such inscriptions, rudely cut or marked with charcoal, as: "Park House," "Hole in the Wall," "Mose Pearson's," "Aster House," "Williard's Hotel," "Five Points," and other titles equally absurd, expressing in this ridiculous way the vagaries of the inmates.[9]

Such individualities were tolerated, of course, only in the large citizen armies of wartime and would never have been allowed in the quarters of the Regular Army before or after the war. Inside the huts, according to the same source, the men placed their knapsacks or bundles of personal effects at the heads of their bunks. Haversacks, canteens, and equipment usually hung on pegs inserted into log walls, but there was no regular place for muskets. Hardtack boxes served as "dish closets," with their covers mounted as doors on leather hinges. Boxes mounted on legs served as tables, around which were to be found homemade three-legged and four-legged stools. Some huts would have shelves over the fireplaces for "bric-a-brac." "But such a hut as I have been describing was rather high-toned," recalled the soldier. "There were many huts without any of these conveniences."[10]

Another veteran of service just after the Civil War left record of a rare glimpse inside the tent of a first sergeant, David Grew of the 1st Cavalry, at the new post on the Upper San Pedro, Arizona, in 1866. John Spring visited Grew one night to engage in some serious drinking. Grew's possessions, which later he would probably move into his quarters (then under construction), appeared to Spring "in the half-darkness of the tent, illumined by a solitary tallow candle [; they were] a tumbler, a sugar bowl, and some lemons standing on a cracker box near his bed. . . . I placed my bottle and cigars on Grew's homemade table; he carried a corkscrew of course."[11]

The summaries of miscellaneous barracks contents in Billings' 1870 Report on Barracks and Hospitals were inconsistently descriptive but revealed a wide range of variation from post to post. The following are some examples:[12]

> [Camp Bowie, Arizona] [There is] no other furniture than the rough bunks. . . .
>
> [Camp Crittenden, Arizona] [Besides bunks, the] only fixtures are wooden arm-racks and benches.
>
> [Fort Foote, Maryland] [O]ver each [bunk] is a shelf for the knapsack of the soldier.

> [Fort Independence, Massachusetts] The furniture of these squad rooms is little beside the stove, bunks, and bedding, the clothing, arms and accoutrements of the men.
>
> [Madison Barracks, New York] Each squad-room is thoroughly fitted up with gun racks, lockers for the clothing and effects of the men, tables, chairs, shelves, and clothes-hooks . . . [each] locker and shelf are painted with [the soldier's] name and company number.
>
> [Fort Monroe, Virginia] The men sleep in the main room of the company quarters . . . in which, too, are kept their boxes, extra clothing, apparatus for cleaning arms, accoutrements &c.
>
> [Camp Verde, Arizona] [The] only fixtures or furniture is a double line of bunks. . . .
>
> [Fort Washington, Maryland] [Besides bunks, the barracks are] also fitted with . . . lockers, and gun racks.

The Army's fear of fire influenced the contents of its buildings after the Civil War. At Fort Laramie, Wyoming, in 1870 an "ample supply" of water barrels were kept filled in all buildings, including 400 gallons in the hospital alone. There were fire buckets hanging in every room at the post, and many buildings had fire ladders as well.[13] The distribution of commercial fire extiguishers began in 1869 or 1870, and within a few years virtually every post had a supply of the Babcock soda-lime chemical extinguishers. After 1874 the Johnson Forcible Hand-Pump was the preferred model, and in due course it became ubiquitous.[14]

Both boxes and benches received occasional mention, but few descriptions, as barracks contents, especially after the Civil War. The benches of course, were specifically permitted by regulation, although their actual construction in any instance depended upon the tastes of the craftsman and the materials and tools available to him. Graphic depictions of any before 1880 are few. John Cox, a veteran of service on the frontier in the 1870s, sprinkled his memoirs with a number of detailed cartoons illustrating his stories. One shows a group seated around a Composite bunk playing cards. One member of the party is viewed from behind on a one-man bench that appears to be made of only four boards--the top resting on board legs with one diagonal board brace, making it look like the letter N with a cap. Although Cox's drawings were generally very accurate, necessity would demand an opposing brace not shown in his drawing, unless there were a foot board connecting the legs or a horizontal brace joining the legs and brace around midpoint (neither shown in the drawing).[15]

Boxes or footlockers are more curious. They were first authorized in 1875, but only for permanent barracks, and in fact the specified model received very little distribution. It measured 24 inches long, 12 inches broad, and 10 inches high--and was therefore smaller than those appearing in photographs of the late 1880s and early 1890s, which were bigger, contained compartmentalized trays, and had standard fittings. It might justly be surmised that the 1875 dimensions accorded with the unofficial "boxes" or "lockers" mentioned in earlier sources as far back as the 1850s.

In compiling supply specifications in 1875, the Quartermaster Department recorded those for the record books that adorned every orderly room in the Army:

> Books, Company Order. To have 44 ruled leaves and 4 unruled leaves. 24 lbs. demy; size of paper when folded in book, 10-1/4 inches broad, 15-1/2 inches long.
>
> Books, Company Descriptive. Same in all respects as the company order books, with the addition of printed heading according to pattern.
>
> Furnished from Phila. Depot by Col. Easton, March 2nd 1875.
>
> Books: Company Morning Report. To have 96 ruled and printed leaves, according to pattern, and four unruled blank fly leaves 24

lbs. per ream; size of paper when folded in books, 11 inches broad by 14-1/2 inches long.

Furnished from Phila. Depot, by Col. Easton, March 2nd 1875.

Books, Company Clothing Account. To have 140 ruled and printed leaves, according to pattern, and 4 unruled blank fly leaves, 24 lbs. demy; size of paper when folden in book: 10-1/4 inches broad, 15-1/2 inches long.

Furnished from Phila. Depot by Col. Easton March 2nd 1875.[16]

It cannot be assumed that anything not specifically identified in a contemporary account as being present in a barrack was perforce absent. However, one category of objects--tubs and other bathing facilities--was pointedly described as missing from virtually every military post as late as 1875 and probably for some years after.[17]

During 1876 the War Department adopted specifications for general issue stencil plates and sets, scrubbing brushes, and brooms.[18] Each class of items had probably long been present at military posts--stencils because the Army had long since made a tradition of labeling everything, brooms and brushes because things were supposed to be kept clean (although "holystones" probably had a longer history). But it is doubtful that there was a great deal of uniformity in such miscellany from one post to the next, whereas after the late 1870s uniformity in even the mundane was guaranteed by the very promulgation of the specifications and the addition of the items to the inventory of general issue supplies.

However each post fitted itself out, one last standard item appeared in most barracks in the late 1870s. That was the first barrack chair, a plain wooden model distributed to virtually every post, according to the supply table established for it (one to every noncommissioned officer above the rank of corporal, six for every 12 enlisted men of other ranks) before 1880.[19] At about the same time, the distribution of books and current periodicals to military posts, temporary as well as permanent, was just getting underway. It appears, however, that separate reading rooms were usually established by one means or another, so the publications probably remained in them. Unless a post library had a lending policy, any reading matter present in barracks would have been personal property--and kept stored out of sight in all properly tidy barrack rooms (the clear implication of the regulation barracks neatness was that, at least in the daytime, the rooms were not to appear lived-in). Few of them had enough light to read by anyway before the 1880s.

Notes

1. *Report of the Quartermaster General upon the Subject of Barracks, Storehouses, Hospitals, &c.* (1827), 7.

2. U.S. Congress, House, Committee on Military Affairs, *Report on Claim of Officers, Non-Commissioned Officers, and Privates of the Army for Losses Sustained by the Burning of Hancock Barracks, Maine*, Mil. Aff. Doc. 557, 23 Cong. 1 Sess., ASP 20. The committee recommended that the requested relief not be granted.

3. Prucha, *Army Life*, 83 and 85 as examples.

4. Ibid., 93.

5. Lowe, *Five Years a Dragoon*, 98-99.

6. Meyers, *Ten Years in the Ranks*, 2-3.

7. J.L. Donaldson to Lieut. Col. H. Brooks, July 3, 1857, QMConFile--McHenry, Fort, RG 92.

8. Bandel, *Frontier Life in the Army*, 114.

9. Billings, *Hardtack and Coffee*, 47.

10. Ibid., 70-71.

11. John A Spring, *John Spring's Arizona*, ed. A.M. Gustafson (Tucson: University of Arizona Press, 1966), 62.

12. Billings, *Report on Barracks and Hospitals*, passim. This is presented with page citations in appendix A.

13. Ibid., 349.

14. See chapter 11 and appendix L.

15. Cox, Five Years in the U.S. Army, 49.

16. ROQMG, Miscellaneous Specifications, RG 92. Although it is not stated, the first specification probably arrived from Philadelphia with the others. All were probably in force long before 1875. A "demy" is a size of paper, commonly 16 x 21, 15-1/2 x 20, or 17-1/2 x 22-1/2 inches. The two books with demy sheets apparently had the second size, almost half of each sheet folded into the book as what is today called a foldout. The formats of all record book pages, including those specified here, were frequently revised and published with each issue of the general regulations.

17. Report on Hygiene, x-xi. Anderson, "Army Posts, Barracks, and Quarters," 433-34, said in 1881, "yet we have no bath-rooms." Tubs cut from barrels were reported at Fort Leavenworth in 1852-53, however. Lowe, Five Years a Dragon, 76-77.

18. See appendix L.

19. See appendix L. The new model was replaced by a leather-bottom one in new specifications adopted in 1883. ROQMG, Miscellaneous Specifications, RG 92. The new model, however, would appear only where the earlier ones had not been supplied or had broken down in use.

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GUARDHOUSES

While providing instructions on the construction of buildings at Fort Detroit, Michigan, in 1805, the secretary of war added, almost as an afterthought, "A guard house also will be requisite, of one story, and about 15 feet square. The walls of the guard house should be built of square timber of nine inches thickness."[1] He had nothing more to say on that subject, and neither did many other observers of military posts during the 19th century. The subject was so mundane, or distasteful, that not even George Croghan offered it much attention. Nevertheless, some generalizations are possible.

A guardhouse--whether a separate building, a pair of buildings, or part of some other structure--served two purposes, to house prisoners and to house the guard of the day. The prison section of a typical guardhouse was divided into two parts--a common prison room, and a few isolation cells for incorrigibles. For the most part, prison facilities received no fixtures other than slop buckets and, often, iron rings in floors or walls to which shackles were secured. Prisoners commonly slept on floors, although usually--depending upon the sentiments of the local commander or the circumstances of an individual sentence--they took their blankets into jail with them. Finally, at least in the last half of the century, post surgeons endeavored to have prison facilities washed, disinfected, and coated with whitewash. But for the most part, guardhouse prison sections were dim and dungeon like.

Quarters for the guard usually adjoined the prison section, because one of the duties of the guard force was to provide prison security. The chief furnishings in the guard section during the 19th century would have been those accorded offices, since the officer of the guard (usually the officer of the day) and the corporal (sometimes sergeant) of the guard had paperwork to do. That was often segregated in a separate room for the officer. In the guardroom, benches, shelves ("banquettes"), or bunks probably were common for the men resting between assignments. Arm racks probably were common also, along with tables and benches. Fireplaces or stoves would have provided heat, and generally the guard claimed extra candles because of their need for nighttime lighting. Since the guard was the first line of attack against fire, firefighting equipment, buckets, and (when they were issued) fire extinguishers would have been readily at hand.

The unchanging ritual of the daily guard, persisting to the present, helped to determine the furniture requirement. Men were detailed for guard duty for periods of 24 hours. When men of the guard were not absent at sentry posts or on other assignment, they were to remain in the guardroom, fully clothed (including shoes), their weapons close at hand, ready to respond to any call. Sentry assignments were rotated through the 24-hour period and supervised by the corporal. Men might also be detailed as messengers or for special assignments. All took their meals in the guardroom, something that would argue in favor of tables and benches.

At Fort Randall, Dakota, in 1857 Augustus Meyers was sentenced to 30 days' confinement, the first and last 10 days at hard labor, the middle period in solitary confinement. Afterwards, he left one of the few memoirs of army inprisonment during the 19th century:

> When my ten days of solitary confinement expired, I commenced the last term of ten days at hard labor the same as before. During those terms I had to sleep on the floor in the large prison room with the other prisoners. I would have preferred to sleep in the cell alone.[2]

The unhealthy conditions of confinement irritated the post surgeons, who did what they could to ameliorate them. The surgeon at Fort Davis in 1869, for instance, inspected the prison rooms routinely, "and under his directions disinfectants have been freely and constantly used."[3] The understandable concern of the physicians was reflected in Billings' 1870 Report on Barracks and Hospitals. At Fort McHenry, Maryland, the surgeon opined that the guardhouse was too small for the garrison and had an average confinement of 18 prisoners. There were two prison rooms and three small cells for solitary confinement, adjoining a guardroom. "The guard room," he said, "is warmed by stoves, ventilation is rather imperfect, and the building is believed to be decidedly unhealthy."[4]

The prison at Fort Pulaski, Georgia, comprised three casemates, warmed by "large stoves and open fireplaces" and housing an average of 42 prisoners.[5] At Fort Laramie, Wyoming, the two-story guardhouse was somewhat better. The upper floor held one room for the guard and another for the officer, plastered and ceiled, with six windows between the two. "The larger room," reported the surgeon, "contains a rough board bed, where all the members of the guard who are off duty may lie down, a couple of chairs, and a desk." Downstairs, however,

> the basement room is [about 25 feet square] of rough stones, whitewashed, has one door and a window towards the river [heavily barred with wagon tires] and on the opposite side at the top two small windows for ventilation. A couple of cells are partitioned off [with heavy planks and solid doors] in the south side for refractory prisoners.
>
> The prisoners are all kept in the basement room which contains no furniture. There are ten prisoners at present [21 in November 1868]. The basement room is neither warmed nor lighted.[6]

The same year at Fort Davis the surgeon complained that an average of 30 men at a time were confined in a room measuring 15 by 15 by 10-1/2 feet high, giving each only 79 cubic feet of air space when, in his opinion, they required 200 to 300 cubic feet. The only ventilation was afforded by four holes measuring 1-1/2 by 12 inches, which were in the walls about eight feet above the floor, and an opening in the ceiling about 2-1/2 feet square--the latter ineffective, because the air remained entrapped by the roof. He recommended that the building be enlarged and given better ventilation.[7] Two years later, he reported:

> In accordance with the communications of the Post Surgeon . . . the Guard House was enlarged by adding on a new room 12 x 16. This building is never well policed, always in a very filthy and disgusting condition, although disinfectants are freely issued from the Hospital. They are either wasted or improperly used by reason of it not being the obligation of any one to superintend this matter.[8]

Three years later, another surgeon at Fort Davis reported that the guardhouse prison room was floored with flagstones. He recommended replacing that with board flooring.[9] Also in 1875, the guardhouse at Fort Dodge, Kansas, was described as a temporary wooden shed measuring 18 by 24 feet, in bad condition and unsuitable for use, although it had an average population of 12 prisoners. There apparently were no contents other than the buckets used for defecations. To the post surgeon, the conditions were "deplorable."[10]

Finally, one other veteran mentioned in passing some additional guardroom furnishings, probably at Fort Randall, Dakota, 1873-75. They were "the guard house clock," and "the guard house broom."[11]

Notes

1. Quoted in Prucha, Sword of the Republic, 174.

2. Meyers, Ten Years in the Ranks, 132.

3. Medical History of Fort Davis, Nov. 1869. This is typical of an oft-repeated refrain.

4. Billings, Report on Barracks and Hospitals, 65.

5. Ibid., 149.

6. Ibid., 348; see also Rickey, Forty Miles a Day, 177.

7. Medical History of Fort Davis, Oct. 1870.

8. Ibid., May 1872. The issue of hospital disinfectants for other buildings was forbidden by the supply tables, but happened anyway.

9. Ibid., Jan. 1875.

10. Leo E. Oliva, Soldiers on the Santa Fe Trail (Norman: University of Oklahoma Press, 1967), 173.

11. Cox, Five Years in the United States Army, 70-73.

PART V

RECONCILIATION

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SINGLE MEN IN BARRICKS DON'T GROW INTO PLASTER SAINTS*

The preceding parts of this report have approached the furniture of army barracks through examination of administrative history, the development of regulations, and contemporary comments. The following discussion attempts to reconcile the information from those different perspectives into a summary of what, from decade to decade, might have been found in an "average" (if there ever was such) barrack and guardhouse.

Permanent barracks, where they existed, tended to be larger and more substantially built, often better finished, than temporary quarters. From the outset, a whole or at least a half or quarter company occupied a single room, although there were probably exceptions here and there. Because the installations were often near cities, they were closer to commercial sawmills than most temporary posts and as a result usually had more and finer furniture, space permitting.

Temporary barracks varied greatly one from another and underwent some general evolution through the decades. A few generalizations are possible. Most of them throughout the period were of wood, although here and there, especially in later years, they were built of stone, brick, or adobe. The rudest practice, dominant in the earliest years, was to build them of logs or puncheons embedded in trenches, unified only by the roof structure. That general form of construction fell out of favor increasingly after the War of 1812 but remained common until the Civil War and occasionally thereafter. It was supplanted first by construction with hewn horizontal timbers, which did not persist long, then timber-frame construction. The posts built between 1817 and 1820, although basically horizontal-timber structures, showed an increasing use of sawn wood, a product of the great availability of tools after the War of

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*Rudyard Kipling

1812. Portable sawmills were available by the 1820s, if not earlier, and became more common thereafter, especially in the 1850s. The resulting greater abundance of lumber (and nails) promoted balloon-frame construction and more and better furniture.

Probably from the very earliest days the Army used whitewashes--often called "calcimine" or "kalsomine"--extensively for interior finish. The typical barrack room was whitewashed once or twice a year, both for sanitary reasons and to lighten the dark rooms. Where paint (which was always in limited supply) was used, it was only for building trim and sometimes for furniture.

Wooden floors, often of low quality, were standard for buildings erected after 1817. But for no decade can they be described as usually present. Very often they were later improvements to barracks originally built without them; that pattern prevailed even in the decades after the Civil War.

Temporary barracks were generally suitable enough when new, but all of them--because of the nature of their construction and the Army's low level of maintenance--deteriorated rapidly. The same can be said of the furniture within them.

With experience and improving technology, the size of temporary barrack rooms tended to grow over the years, from the small huts common before 1812 to company-size rooms for as many as 100 men. Also, especially in the earlier decades, the size of a barrack room significantly determined the number and dimensions of furnishings placed in it.

During most of the 19th century, the craftsmanship evidenced in furniture built by troops probably often surpassed that reflected in the buildings built by the same men. There were several reasons for that, a principal one being scale--a bench built of boards is simply easier to fabricate than a building of logs. For one-man tasks, the best craftsmen in a unit were assigned. The furniture itself was plain and simple (given basic skills and tools) to make. Further, woodworking skills were widespread among America's populations in the 19th century, especially before the Civil War when many soldiers came from rural homes or small towns where woodcraft was an important part of daily life. The general level of craftsmanship declined after the war, however, with the gap filled increasingly by prepared lumber and the growing use of nails (technology's gift to the inept joiner) and by the distribution of general issue objects.

It should also be recalled that throughout the 19th century a substantial part of the enlisted ranks were foreigners with more than ordinary skills, who often joined the Army to learn English, without which they could not find work in civilian life. Other skilled men joined the Army, especially after 1849, in order to be shipped to the West, where (if they did not desert upon arrival) they hoped to find profitable employment after discharge. Others joined during the recurrent economic slumps, when jobs in the civilian world were scarce.

Finally, at the risk of belaboring the point, throughout the century there was a great deal of variation in buildings and their contents from post to post; about the only thing uniform throughout the Army was its uniform. However, considerable uniformity of buildings and furniture could be expected within any one post--in fact, it was required by regulations.

There will be few citations in the discussions that follow; the reader is referred to the earlier parts of the report and to the appendixes. The figures on authorized company size are derived from the tables in appendix N.

A comment on the Army's strength is in order. Because the returns surviving are incomplete, no one knows exactly how many men were in the Army during the years before 1816. The authorized strength and organization were matters of law, although it is known that the Army probably was never at full strength during those early years. But the organization was complete even if the companies were under strength, so in comparison with the fuel regulations and related data, the authorized strength may be taken as a guide on how companies would have been divided among rooms.

1800-1812

Barracks:

In the fall of 1782 the Continental Army moved to the neighborhood of New Windsor, New York, to establish its final cantonment. Working in groups of 16, within two months the soldiers erected over 700 substantial corner-notched timber huts for every purpose, along with a large assembly building. The typical soldier hut measured about 39 by 18 feet overall, with a fireplace and chimney at each end; it was divided into two rooms, each to house an average of eight men. It is known that the men built bunks for themselves, in which they slept in pairs, and it is believed that they were built into the hut walls. Given the rather generous space available to each group of eight, the likeliest form of the bunk would have been that shown as the problematic "first" army bunk in appendix D--a floor-level side rail confining straw over brush or puncheons, one in each corner of the room. Two-level bunks had been used by the British in the 18th century, and the erection of such structures--in two corners of the room at the opposite end from the fireplace--would have freed floor space and removed the straw from the open fire. However, the one-story version, because of the limited range of tools available, is more likely. Regarding other furniture there is little information, although puncheon benches, tables, and stools, along with camp paraphernalia, seem reasonable.

New Windsor Cantonment was not only the Continental Army's last and largest, it was its finest. It reflected years of experience, increasing sophistication, and a substantial inventory of tools (mainly those for chopping, hewing, and shaping; except for crosscut types for bucking logs, saws apparently were not abundant). Washington required that all buildings be built to a high standard and ordered some that did not meet his approval to be demolished and started anew.

For the Continental Army, New Windsor reflected the attainment of professionalism and of perfection in military construction. To the United States Army 20 years later, it was a precedent, an ideal, a standard to be met. The Army's leaders in the years after 1800, including the secretary of war, were mostly veterans of the Continental Army. Its standards were not only handy precedents for the new Army, but they were matters of personal experience upon which to base decisions for the future.

Revolutionary War precedent clearly applied in the first regulations adopted for the Army in 1801, setting the issue of fuel according to each room occupied as barracks by eight enlisted men. That was modified in 1806, but the eight-man standard remained. It might be assumed from that standard that the Army generally housed its men in groups of eight. But that was probably not the universal case, as the Army did nothing in consistent fashion in its early years. To begin with, the miniscule force was scattered before 1805 in at least 43 locations, from 375 men in tents and rented space at New Orleans to three soldiers at Fredericktown, Maryland. The military posts proper included a number of frontier stockades inherited from the British and others erected as conditions demanded. No two, probably, were alike, although they were chiefly rude constructions of log or puncheon palisades with interior buildings attached to the outer walls. But the small number of posts built by the Army before 1812 may well have, to the extent possible, reflected the example of New Windsor, including rooms for eight.

By 1812 the Army officially grouped its men in dozens for housing and distributed fuel accordingly. The change, which was certainly an economical one, may have developed in practice ahead of the regulations, with the 12-man room more generally the norm by the time the rules were altered. There were several possible reasons for that. The winter quarters of the Continental Army, reaching final form at New Windsor, were collections of detached buildings in open communities. Frontier posts, however, were confined within walls. Adherence to eight-man rooms would not have been as practical in such circumstances as lining the stockades with series of oblong, 12-man rooms.

Just as revolutionary precedent could be applied only awkwardly to the conditions at frontier posts, it did not fit well the actual organization of the new American Army, which itself underwent deliberate reformation when the peacetime establishment was fixed anew in 1802. Companies were less conveniently divisible into groups of eight than into dozens. Taking an infantry company as a standard, the following table presents the average authorized size of a company, as changed before 1812, with the results if divided by eight or twelve:

1800: 62 men required 7.8 rooms (by 8) or 5.2 rooms (by 12)

1800: 76 men required 9.5 rooms (by 8) or 6.3 rooms (by 12)

1808: 76 men required 9.5 rooms (by 8) or 6.3 rooms (by 12)

In dividing companies to determine how many rooms they would had required, two considerations should be borne in mind. First, some small allowance must have been made for regimental noncommissioned officers. Second, greater allowance must have been made for the fact that few or no companies were at authorized strength. The result is that the product of each division, to match the realities of actual strength, was likely rounded down to the next lower whole number rather than up--that is, overcrowd rather than overbuild. The War Department might have intended to issue wood to men in groups of eight, as had been done at New Windsor, but the men themselves would have had less work to do if they built rooms for 12. The latter probably became progressively more common, especially after 1802.

Another force favoring the 12-man room was the fact that the men were issued equipment and cartage in units of six--in which they also lived in tents. And finally, it should be reiterated that there apparently was no uniformity at all; men probably lived here and there in groups ranging from two to 20 or more, depending upon circumstance. The War Department, in seizing upon the eight-man quarters of New Windsor, may have simply borrowed the handiest precedent as it established control over the fuel ration. It did not resolve the disparities until 1812, when the expanded size of companies joined the other influences to make groupings in dozens the most practical pattern.

Finally there is considerable reason to believe that the most common bunk before 1812 was the floor-level type sketched as the "first" army bunk in appendix E. For one thing, the best available evidence on a "permanent" barrack during the period, Fort Detroit, suggests that there the men were to sleep in lofts not exeeding 3½ feet high--a clear implication that they slept on the floors of the lofts. For another, it is believed that the typical tool inventory at a new post under construction probably fell short even of that at New Windsor in 1782. Elevated, even multistoried bunks could have been built with such limited tools, but they would have required great skill and some time. Furthermore, it is known that elevated bunks were apparently new in the Army as late as 1820 (although the two-story free-standing bunkbed that soon became the norm probably had roots as far back as the 1750s).

Guardhouses:

There is almost no information on the earliest guardhouses. Because corporal punishment was the chief means of discipline, it is very possible that malefactors were seldom confined. Some accommodations for a garrison guard would have been necessary, however. Guardrooms during this period probably had nothing more than a bench or shelf for the men, an arm rack or pegs for the weapons, a larger supply of candles than present in barrack rooms, and slop and water buckets. Heat came from open fireplaces. Otherwise, the guardroom at a post probably matched the barrack rooms in dimensions and form of construction. Where prison rooms were present, their entire furnishings would have been shackles, and rings, and slop buckets for wastes.

The guardhouse at Detroit was supposed to be of 9-inch timbers, 15 feet on a side. Whether it was to be subdivided is not apparent from the instructions.

1812-1820

Barracks:

There were no permanent barracks occupied during this period, except the few built before 1812 that survived. Otherwise, the few artillerists manning coastal fortifications mostly lived in circumstances not greatly different from those on the frontier. It was not until 1820 that the War Department directed the Corps of Engineers to erect quarters at permanent fortifications, something it did only occasionally for the next six decades.

At the start of the War of 1812, the average authorized size of an infantry company was expanded to 102 men; it grew to 103 men in 1813, and fell to 101 the next year. In 1815, after the war, it reverted to 78 enlisted men per company on the average, although companies were seldom at full strength.

Winter quarters erected during the war were mostly open hut cantonments, much like those of the Revolution, in the northern theater, and rough log-palisaded forts, often reinforced with earthen embankments, in the Northwest. But the most general pattern, especially during the first two years, was one of chaos and deprivation. At many places the men lacked bunks, straw, blankets, sometimes even buildings--and the tools to build them with. Construction practices varied, but mostly followed older patterns. Barracks furniture, as such, was probably very rare in most temporary quarters during the war. The chief change from earlier conditions was that, given the expanded companies and the various exigencies, huts and barrack rooms were often grossly overcrowded. After 1812 the War Department allowed a room to each 12 men, but where quarters were insufficient crowding was unavoidable.

Immediately after the war, as the Army shrank swiftly in size, there was relatively little new construction; most troops occupied posts already existing. Between 1817 and 1820, however, there was a significant construction program (its budget cut in half just after it started). Actually, there were two. One developed fortifications (mostly without quarters) on the seacoasts, the other on the frontier. Earlier construction and room arrangement reflected a range of hybridization between the previous patterns and those followed after 1817.

Among the noticeable trends was the growing use of sawn lumber. Tools, including saws, were more available in both the civilian and military worlds after 1815 than they had been before the war, and industry was introducing a steadily expanding range of saws, planes, and other woodworking implements. Also, buildings and forts commonly were built of corner-notched horizontal timbers, a pattern that largely gave way to post-on-sill construction after 1825.

Another development was the shrinking size of barrack rooms built after 1817. More men typically occupied less space, and as a result a significant evolution in bunks occurred. They now commonly appeared in two or three stories, and they were narrow, typically less than 3 feet wide. Even so, they crowded the rooms, and that together with emerging hygienic awareness made separate kitchens and mess rooms generally the norm by 1820. But bunks were not always present, and those that were seem to have been variously built-in or free-standing. The lower level of the former typically remained on the floor, that of the latter often was elevated. The advantages of movable bedsteads were obvious, and in general terms built-in floor-level bunks became uncommon after 1820.

Cantonment Missouri, Nebraska, built 1819-20, was in its day the largest military post in the United States. It was also the best documented of its generation. That, together with its possible status as a sort of standard for other posts, allows it to serve as an instructive example of the general type. The scaled drawings of the post made in 1820 (appendix B) show a hollow square about 240 feet on a side, with a covered gateway projecting from the center of each side. All construction was of hewn horizontal timbers, corner-notched, with board floors and roofs. Brick fireplaces with stone hearths and mud-and-stick chimneys projecting through the roofs heated the rooms.

The continuous outer wall, without openings of any sort, formed the back wall of all rooms in the square. It was about 10 feet high at the roof line. The continuous roof sloped toward the center of the fort, resting on the front walls of the rooms, about 6 feet high. The rooms themselves--the fort was more or less four strings of cubicles joined at the corners-were pretty much alike, about 10 feet square on the outside, slightly more than 9 feet square on the interiors; some of them were subdivided. Each room had one window--12 inches wide by 18 inches high--facing the center courtyard, next to a board door about 3 feet tall and 1½ feet wide, opening onto a small stoop. The front and back walls were connected by stringers; the stringers or joists may have supported lofts in some of the rooms.

Two buildings occupied the center of the court; they were built of timbers like the outer square. One, measuring roughly 28 feet by 50 feet, housed three general storerooms each about 14 feet square; a mess room for two regiments measuring about 10 feet by 20, with a kitchen room at its end about 8 feet by 10; a schoolroom measuring about 5 by 10 feet; a storeroom for Indian trade goods measuring about 5 by 5; and four rooms for guards and prisoners, three of them about 5 by 5, one about 5 by 10. The other building, measuring about 28 feet by 40, was divided into six equal rooms, five for storage and one a double-walled magazine.

Three of the rooms in the outer square were for hospital use. The rest housed officers and enlisted men of two regiments, Indian agents, and storage or special uses. For the 6th Infantry, 460 enlisted men occupied 36 rooms, or slightly more than 12 to a room on the average. The 608 enlisted men of the Rifle Regiment occupied 40 rooms, or about 15 to a room on the average. (Both figures include regimental noncommissioned officers.) In addition, there was a substantial number of washerwomen, wives, and children in the barracks, although the actual figure is not known. Washerwomen were authorized at the rate of one to every 17 men, or 27 for the 6th Infantry and 35 or 36 for the Rifle Regiment.

The barrack rooms were dim, low hovels, scarcely more than small wooden caves. An officer of the 6th Infantry complained that the men made a bad situation worse. Those in his regiment cleaned fish and piled wood in their rooms, and the riflemen were only somewhat better. Both regiments habitually spilled water on the floors "which renders them damp and unhealthy." Both also threw their wash water out the doors, and garbage everywhere, especially behind the buildings. "The construction of the bunks in the Rifle Regiment," he averred, "does not appear to be calculated for the enforcing of a rigid police on account of the vacancy next the floor." (Both quotations, Johnson, "Cantonment Missouri," 126.) It would appear from that that the bunks of the infantrymen were on the floors.

The question is how anywhere from 12 to 18 people could find a way to sleep in about 80 square feet of space. Obviously, the bunks had to be narrow and multistoried. A typical room at Cantonment Missouri could have accommodated three two-story bunkbeds for 12 men in all, provided they were less than three feet wide. The door and fireplace would have to have been at the same end of the room, opposite the bunks. The lofts could have accommodated extras, such as women or noncommissioned officers, but not everyone.

Alternatively, the bunks could have been in three stories. But if the headspace was less than 6 feet (if a loft was present), the lower bunk must have been on the floor or the separation between stories very small.

At Cantonment Missouri the Army created problems in the design of quarters and furniture that it did not sort out until the 1820s. One officer complained that the men's meals were "irregular," which is not surprising if one small mess facility served two regiments. On the other hand, during the first winter there were complaints that some of the infantry rooms did not have tables or shelving to hold "table furniture and fragments of provisions." Although it is difficult to see how the rooms could have accommodated more than bunks and equipment, that suggests that there may have been some cooking, eating, and storage in some of the rooms.

It was probably at places like Cantonment Missouri around 1820 that the free-standing, multistoried wooden bunkbed, with attached shelving and arm rack became established as the norm. Hardly anything else would have worked in such circumstances. Certainly this bunk had existed before, although not universally. Now it was inescapable. And in the Army's way of doing things, it would persist even after its general necessity had passed.

Guardhouses:

There is little information about guardhouses during this period. At Cantonment Missouri, guards and prisioners had four rooms in a building given several other uses. One room, presumably for the guard, measured 5 feet by 10, the others, presumably for prisoners, measured 5 feet square. That reflects the fact that the Army had turned increasingly to confinement and away from more brutal punishments, but it says little about the arrangement of the interiors. Probably the only furniture in prison rooms would have been slop buckets and shackles. In the guardroom, a bench or shelf for the men to rest on, perhaps a musket rack, seem likely, probably along with a slop bucket, water bucket and dipper or cup, sandbox or water bucket for fires, and candles.

1821-1848

Barracks:

In 1821 the authorized strength of the Army was cut in half, to just over 6,000 officers and men. From 1833 to 1836, three acts of Congress raised that figure by only about a thousand. In 1838 the demands of the Seminole War raised the limit to over 12,000, and in 1846 and 1847 the Mexican War drove it to over 17,812 and 30,865 respectively. When the war ended, Congress cut the authorized force to just over 10,000 officers and men. But as the last table in appendix N shows, the actual strength of the Army never approached the authorized. That fact did much to ease the overcrowding prevalent in barracks by 1820.

The expanded Army during the two wars really did not affect the demand for housing, since the major part of the force was in the field. Even at the many strong points of the Seminole War most of the troops lived in tents--the fresh air giving them a lesser rate of disease than was prevalent at military posts elsewhere. In peacetime, the average authorized strength of an infantry company was 51 enlisted men after 1821, if one allows for the fact that most companies were understrength, that is a figure easily divisible by 12, with a company typically occupying four rooms at a temporary post. Even the authorized expanded companies of the 1840s seldom exceeded that figure by much, requiring at most only another room for a dozen. In 1848, at the end of the War with Mexico, the average infantry company reverted to an authorized average of 52, where it remained until the Civil War.

Except for wartime, artillery companies remained at a stable authorized average of 55 men, reduced to 54 in 1848. Dragoon companies were somewhat larger, 71 on the average when first authorized in 1833, reduced to 61 in 1848. The Regiment of Mounted Riflemen had an authorized average company of 76 enlisted men throughout its life after establishment in 1846, except for the height of the Mexican War. It did not require barracks until after 1848.

Even with smaller companies, the Army could not for long coop its men up in tiny dens such as it built at Cantonment Missouri. Questions of humanity aside, the men simply would not endure such conditions, and deserted in great numbers--their own way of reducing the overcrowding. The fact that there was a stable Quartermaster Department after 1821, together with an increasingly professional officer corps and a body of enlisted men working with more and better tools, combined to promise improved construction procedures. But that was not to be for some time. In 1820 Congress halted all construction and repair on the frontier, and in 1823 the construction of permanent works (mainly without quarters anyway) came to a halt. The result was that all posts suffered more or less deterioration for half a decade. Floors rotted away, roofs sagged, bunks fell apart.

Construction resumed in 1825. The Army seems by the mid-1820s to have settled upon a general pattern for temporary barracks and furniture, which persisted for nearly three decades with relatively little evolution either in the regulations or in practice. The commonest method of construction was post-on-sill timber frame with timber in-fills, although examples of log and puncheon palisade-in-trench construction and other materials and techniques could be encountered. The board floors that had rotted away so fast in the early 1820s probably did not seem worth the trouble, so wood floors were installed only occasionally. Puncheon floors probably were common, since they were cheap and easily replaced, but very often barrack floors were of earth.

Timber-frame construction, especially with more and better tools, allowed greater size and flexibility than palisades or horizontal timbers with corner joining--although the chief reason why Cantonment Missouri's structures were so small may have been either hastiness to beat the approach of winter or simple ineptitude on the part of the officers in charge. So barrack rooms became larger after 1825. Those reported at Fort Washita, Oklahoma, may have followed a general pattern. Each company was divided among four rooms, each measuring 17 feet by 19 feet and with separate mess facilities. In that case the four rooms were in two buildings; in other instances the rooms were all under one roof.

Stockades surrounding frontier posts became less common, although by no means nonexistent--even as late as the 1870s some officers believed a fort should look like a fort. But there was no real military reason for their presence, and they interfered with both traffic and ventilation. So while here and there some commanders built new posts with enclosing walls, at others the walls were torn down.

Bunks, benches, and tables in barracks and mess rooms were acknowledged by the regulations after 1821 but not specifically permitted to be built at public expense until 1835.

An important aspect of barracks life during the period was the fact that the buildings universally began to deteriorate even before they were completed. After a period of years they became thoroughly disagreeable. They were dim, smoky, and damp enough to begin with, but sooner or later they became obnoxiously smelly and visibly shabby, sometimes jury-rigged together in one way or another. Those improperly sited on wet ground or in flooded areas were the worst.

At permanent forts the story was inconsistent. Men at permanent forts built before the early 1820s occupied quarters if the Corps of Engineers had gotten around to building them--something that was not common. Construction resumed in the late 1820s and accelerated in the 1840s, but with the same indifference toward quarters. Where the forts were garrisoned, the men usually lived in casemates or tents. Even that was not common, however. The Army was so heavily invested in the West that it could not spare men for the seacoast works. Much of the time artillery units existed only on paper. The most significant occupation of permanent quarters was along the Candadian border and at recruiting depots. For most of the period forts around New York, on the Virginia coast, and in Louisiana tended to receive what military units were available; the others were in caretaker status, unmanned.

This is the first period when the regulations provide some useful information about the contents and appearance of barracks. Winfield Scott was finally able to impose his standards of sanitation, orderliness, and uniformity upon the Army. The evidence is that the officer corps, by now dominated by West Point graduates, implemented the regulations to the extent that conditions allowed. In practice there was a great deal of variation from post to post, but a high degree of uniformity (the Army's cardinal virtue) within a post, from room to room.

The reduction of the straw allowance in 1821 probably combined with the space limitations to keep the wooden bunks narrow before the 1850s. But the regulations suggest other features of the bunks as well. Although the bunks were arranged in two, sometimes three, layers, the regulations treated each bunk and its shelf as a separate unit. The bed bottoms were regarded as the first, or lower, shelf, upon which were displayed the rolled bedding, knapsack, and greatcoat. The shelf proper received the dress cap in its case and presumably the dress uniform if not on the soldier or in the knapsack. Weapons and knapsacks, kept at the ready, went to the foot of the bunk, things not at the ready (bedding, dress cap, shoes) to the head.

It is also apparent that arm racks were supposed to be appended to the bunks. But it seems that that became less common as time passed. It was probably simpler to construct separate structures for muskets, placing them at the foot of the bunks. Where, in rare cases, the rooms were large enough, arm racks may have been against or attached to walls. They could not have been elevated too far from the floor in any case, because the muskets averaged around 5 feet long throughout the period. Storage of muskets was always vertical, because of the lack of wall space.

The racking of arms and accoutrements was carefully prescribed in the regulations, albeit leaving wide room for different interpretations (as Croghan complained). In 1821 the regulations required the following:

> Fire arms will be habitually placed, (the cock let down, and the bayonet in its scabbard) in the arm-racks; the accoutrements suspended over the firelocks; swords hung by the belts, on pegs.

From 1835 on, the same subject is prescribed as follows:

> The arms will be placed in the arm-racks, the stoppers in the muzzles, the cocks let down, and the bayonets in their scabbards; the accoutrements suspended over the arms, and the swords hung by the belts on pegs.

The most significant change was the addition of the stopper, or tompion, which probably had been present earlier. What may seem like another change--from suspending the accoutrements over the "firelocks" to over the "arms"--was not one at all. It merely reflected the evolution of the language. "Firelock" was the common American military term for a flintlock musket before the 1820s, when it passed out of use. It did not mean the lock or firing mechanism of the weapon. The likeliest interpretation is that the accoutrements were hung over the muzzles of the weapons when racked. Where the pegs for the swords were is open to speculation. The likeliest case is that they were not far from the muskets and were probably (but not always) affixed to the racks rather than nearby walls or furniture.

It is clear that the muskets were not to be racked with bayonets fixed. Not only were the rooms often too low, but plug bayonets had long since vanished, and the practice of permanently soldering bayonets to muskets--15,000 were so treated from 1796 to 1800--was formally outlawed by the secretary of war in 1806.

Finally, it should be reiterated that no item of barracks furniture varied as widely from place to place and from year to year as the arm rack. There may not have been a general standard until the 1880s.

Guardhouses:

Guardhouses were still a rather unmentionable subject during this period. The same considerations for furnishings applied as for the earlier period.

The 1850s

Barracks:

The Army entered the 1850s somewhat reduced in strength from before the Mexican War but retaining the same company sizes--52 enlisted men authorized to an average infantry company. For a change, however, actual strength very nearly matched the authorized figure through the early part of the decade. In 1855 the Army was reorganized, and its authorized strength increased by about one-fifth. The average size of infantry companies remained the same, however, except for the optional authority given the president to add 32 privates to companies in remote areas in the West. The president exercised his option freely in the years before the Civil War, and at many places the average strength of infantry companies was around 85 or more.

Portable sawmills, chiefly circular animal-powered types, became relatively common in new post construction in the West. As a result, barracks housing whole companies in one room became increasingly common, although by no means universal. On the contrary, the range of variations across the Army was greater than it had ever been before. Company barracks at Benicia Arsenal, California, built with balloon-frame construction in 1850, measured 80 feet by 30 feet; those built in 1856 at Fort Davis, Texas, of stone with thatched roofs and flagstone floors, measured 60 feet by 20. At Fort Duncan, Texas, the men lived in groups of six in small grass-and-willow huts. Here and there the Army tested wood or iron portable buildings, with generally poor results. Large stone or brick barracks were built at several urban centers, New York in particular, but men at many other new and old seacoast works still inhabited casemates or tents.

Nor did older forms of construction vanish altogether. Posts built in Oklahoma during the decade were fashioned of logs and puncheons in a throwback to the most primitive methods. Timber-frame, post-on-sill construction, however, no longer was prevalent--probably because the traditional skills required for such work were growing scarce. In the civilian world, abundant lumber and nails had made balloon-frame wood construction very common. By the time the Army released its new barracks regulations in 1860, it too seemed determined to adopt the balloon-frame wood building as its standard.

Except in some of the permanent quarters in the Northeast, the furniture in barracks remained the old wooden bunks, benches, and tables, although the quartermasters on the Pacific Coast did, apparently with some success, make serious efforts to equip some barracks with iron bedsteads. Where wooden furniture built on site remained the rule, it is likely that sawn, dressed, lumber was commonly available and that nails began to supplant traditional joinery (although posts under construction often ran out of nails). There was also a noticeable trend toward wider bunks, probably mainly in permanent barracks and recruiting depots where space was available, but possibly at some of the new temporary posts as well.

Some interesting changes in furnishings were promised, and a few of them delivered during the decade. In 1854 the War Department adopted the single iron bedstead as the army standard, but without saying what it should be. The straw allowance thereafter was for men as individuals rather than in pairs--12 pounds per man per month. But in practice, most of the Army continued to sleep double on wooden, two-story bunkbeds. Somewhat over 5,000 copies of the Johns bunk were supplied to recruiting depots around New York at the end of the decade, and an unknown number of a similar type made their way to California and to a few other posts around the country. It is also known that iron bedsteads of more than one type came into use around New York. One was simply an iron version of the two-story, four-man wooden bunkbed, possibly Whiting's design. Another was a one-story, two-man bedstead that could be folded up during the daytime. The latter may have followed the pattern of folding one-man bedsteads in use in British barracks.

Stoves became more common in the 1850s, especially at the eastern posts where fuel was especially scarce. They remained relatively uncommon in temporary barracks but did appear here and there, especially on the West Coast. Plumbing was installed for laundry rooms and water-closet latrines in many permanent quarters, along with iron cooking ranges (often with water backs to supply hot water). Some temporary quarters even got built-in brick ranges, although open fires remained the principal way of cooking food. Where ranges were present, the number and variety of skillets, pots, griddles, and other "stove furniture" expanded, most of it iron or tin. Some post bakeries were established, but as in later years when they became general, they were wholly separate from barracks and mess rooms.

The private soldier's leisure life is somewhat better known for the 1850s than for earlier periods. Occasional company libraries were reported. In at least one instance halved barrels were placed in a mess room to serve as bathing tubs in winter. The liquor ration had long since ended, but the men of the 1850s had more money to spend than had their predecessors; liquor was consumed mostly off post or at sutler's shops. Some money may have been used to increase the supply of candles in barracks, and it is almost certain that company funds began to be used for such purposes. Barracks remained mostly dim, however, as there were better uses for the money than sputtering candles.

Drunkenness and sexual adventures have been important forms of soldier recreation as long as there have been armies. Another illicit and equally ancient pleasure is gambling. Various dice and chance games and similar ways of parting fools from their money have been around for thousands of years. By the 1850s card games were one of the most popular types of recreation in the United States; by then they had probably begun to surpass dice as the preferred form of gambling in the Army.

Tobacco chewing remained widespread in the 1850s, indeed for many decades yet to come. But the smoking of cigars and, especially, pipes was increasingly common. Briar pipes (often homemade) were probably the most popular, but they never completely supplanted clay pipes, breakable though the latter were; clay pipes enjoyed a resurgence during the Civil War, but by the 1870s they were regarded as quaint or low-class. (Sherlock Holmes' devotion to the workingman's black clay pipe in the 1880s and 1890s was regarded by Dr. Watson as among his "slovenly" habits out of keeping with his station; he never smoked a calabash, by the way. Although often identified with cigars, Ulysses Grant was more commonly seen with a briar in his mouth--a habit he apparently acquired in the Army during the 1850s. Incidentally, the reason archeologists find only clay pipes while digging at old military posts is that clay, unlike briar, does not rot in the ground.) Corncob pipes were reported in the late 1850s. Roll-your-own cigarettes appeared mainly after the Civil War; tailor-mades became progressively more common after the 1880s.

The better paid and better educated soldiers of the 1850s had more personal possessions than their forebears. Chests, boxes, and footlockers for soldiers--not formally authorized, although long traditional for seamen--were often reported during the decade, although mostly in permanent quarters. They remained uncommon, of inconsistent pattern, and of no uniform availability; most of them were probably the property of sergeants and corporals. The Army still expected its soldiers to live out of knapsacks.

It was probably during the 1850s or just before that the Army blanket changed color from white to gray with black stripes and letters. That happened in barracks, but not, it seems, in hospitals; in the 1860s and 1870s gray blankets were used by the Medical Department only in the field; post hospitals were supposed to be furnished white blankets. It is likely, since hospital blankets came from the medical supply system, that that dual pattern was also followed in the 1850s.

Finally, it was the Medical Department that produced the most important change in army furniture during the 1850s. Iron bedsteads appeared on the hospital supply table in 1856 and within less than two years virtually every post hospital, permanent and temporary alike, had received them. No record of its design has been located, but it was probably that appearing in photographs of Civil War hospitals.

Guardhouses:

As before, little is known abut guardhouses in the 1850s, except that in one form or another they seem to have been almost universal. At permanent posts the guardroom commonly was associated with the main gate, with prison sections adjoining. Benches for the men, a common table or desk, one or two common chairs, and cleaning and fire-fighting implements probably were common. Built-in shelves or banquettes may have been common, although not universal, resting places for the men. Arm racks would have been similar to whatever was in the barracks at the post, placed near the door. Guardrooms received extra issues of candles and fuel. Metal-and-glass lanterns (for candles) for the corporal of the guard probably were common by the 1850s.

Civil War

The furniture of Civil War buildings may be quickly summarized. Barracks for volunteers at the training camps were not furnished; rather, the bunks were built in, at first as pigeon holes along the walls. In the early part of the war, the barracks for a company of 100 men were of two types--50 feet long with bunks in three tiers, or 100 feet long with bunks in two. The bunks measured about 4 feet by 6, were separated head from foot by wood partitions, and slept two men each. The only furniture was bedding and blankets; nothing else occupied the buildings. By 1864, standard plans called for two-story barracks, with the dormitories holding bunks in three levels (with two shelves) projecting at right angles from the long walls, the room having windows and better heat and ventilation than the earlier barracks. Both types are reflected in plans in appendix B. Virtually all Civil War buildings were balloon-frame, the lumber often dressed.

Winter quarters harked back to those of the Continental Army, except that they were usually smaller (two and four men were common) and roofed with tenting. The men furnished them with rude built-in bunks of various sorts and such other handiworks as they were capable of assembling. Extensive use was made of wood from ration boxes and bailing wire. The supply of candles was undependable, and slush lamps made from sardine cans appeared in some huts. The cleanliness of the quarters depended upon the habits of the occupants, and camp sanitation was unevenly enforced in volunteer regiments throughout the war. Like soldiers on campaign since time immemorial, the armies of the Civil War were infested with insects.

All buildings erected during the war were officially temporary and disposed of as soon as possible after its conclusion. Any influence they might have had on later construction vanished with them.

Late 1860s

The Army emerged from the Civil War with the largest authorized peacetime strength in its history, established in 1866 at 80,258 officers and men. The larger force was necessary to occupy the South, intimidate the French in Mexico, and put down the Indian resistance to white settlement in the West. But Congress believed that such strength was required only on paper--it actually held the force down to a "minimum organization" of 54,641 officers and men. Only companies of cavalry were allowed full strength; they averaged 100 enlisted men. Unmounted artillery companies averaged 76, mounted artillery companies 140, and infantry companies 69.

In 1869 Congress reduced the authorized strength of the minimum organization to 37,313 officers and men. Cavalry companies now averaged 80 enlisted men, unmounted artillery 76, the five mounted artillery companies 140, and infantry 69.

The companies were considerably larger than they had been before the war, a fact that helps to explain the instances of almost unbelievable overcrowding, especially in cavalry barracks, reported at every hand in the late 1860s. Other factors were also at work. The temporary quarters reoccupied or built by the Army in the years after the war can generally be described as much like those of the 1850s, only worse--as a whole, the worst housing in the Army's history. Here and there men lived in grass shacks, tiny log hovels, soddies, shabby adobe houses, even dugouts. When the Army scattered over the West and the South in 1866, there was no budget for anything more than the most primitive construction. Even when, during the next few years, major construction projects were begun, the Army too often proved to be its own worst enemy. Posts started in Texas in 1867, for instance, were rather nicely designed in comparison with earlier examples. Typically, each company was to receive a building, with two dormitories measuring over 20 by 80 feet, together with other rooms and mess facilities. Even at 50 men to a room, such spacious quarters would have seemed luxurious to a veteran of the 1850s or before. Unfortunately, the posts were built under inept supervision because the Quartermaster Department was not allowed to send officers to direct the work; some of them were sited on inhospitable ground, and some buildings began to come apart even before they were finished. Worse, the money ran out before the projects were completed, and the buildings planned were not all even started, let alone completed. At Fort Davis, only two of six projected barracks were reasonably finished by the spring of 1868, and the unprotected adobe walls of a third were left to weather away for several years.

Similar mishaps occurred elsewhere, aggravated by inconsistent but generally inadequate appropriations for construction and repairs. The result was that there were too few barracks for too many men. With the blessing of the regulations, minimum-space requirements for enlisted men had as much real-world application as those for angels on pinheads. If it were possible to offer a general description based on an average of all temporary barracks in place in the late 1860s, and leaving aside places where men huddled in small groups in grass shacks or dugouts, the recipe would read something like this: Take the room as given, then cram into it as many two- or three-story wooden bunkbeds as it can take, leaving only enough space to allow exits and entries. If that is not enough, sleep more than two men to a bed and put others on the floor. Any surplus can erect tents on the parade ground.

There were only two general considerations that guided the foregoing procedure in the late 1860s. One was that the width of the bunks commonly had grown to 4 or 4½ feet. The other was that the Army usually tried to house an entire company in the same circumstances, no matter how crowded, and it refrained from putting men from more than one company in the same room. But even those considerations were excepted on occasion. And certainly the men were not so grossly overcrowded everywhere, even in the West; just almost everywhere.

At permanent barracks, nothing changed in the late 1860s from conditions before the war; even the same furniture was usually in place, except for the Johns bunks, which were all junked by 1865 or so. A few hundred Jack bunks were placed at David's Island in late 1867.

Conditions began to improve during the 1870s, although often inadvertently. But there were some footnotes for the late 1860s. The germ theory of disease had become more widely appreciated, and with the medical supply table of 1867 the Medical Department instituted a regular disinfectant procedure in post hospitals. That called for the use of "chlorinium," a mixture of concentrated sulfuric acid, table salt, and manganese dioxide. Placed under beds, the concoction released small quantities of chlorine gas. For understandable reasons, the procedure was eliminated from later supply tables, in which carbolic acid was the prefered disinfectant.

And in 1869 the War Department expressly outlawed the use of lamps burning volatile fuels at military posts--an indication that some had begun to appear here and there. There is evidence that lard-oil lamps had by that time become common in guardrooms, and the medical supply tables suggest that hospitals may have been using alchohol ("spirit") lamps on occasion.

Finally, there is considerable evidence of the widespread use of disinfectants in guardhouse prison rooms. The commonest, and most traditional, was lime. But surgeons also complained that their disinfectant supplies were too much drawn on for such purposes. In 1871, the medical supply table offered a clue on practices in the 1860s by including the following statement: "Disinfectants are furnished by the Medical Department, for use in Post Hospitals, and with the sick, only. Quicklime [unslaked lime], chlorinated lime, and disinfactants for the use of posts, must be obtained from the Quartermaster's Department."

The 1870s

Barracks:

The postwar Army had a maximum actual strength of 56,815 officers and men in 1867. It shrank steadily thereafter. By the time Congress reduced the authorized force to 37,313 in 1869, the actual strength had fallen below that by about 600.

Congress adjusted the authorized strength to 35,353 in 1870, cutting average company sizes substantially. As authorized, cavalry companies in the minimum organization averaged 77 enlisted men, unmounted artillery companies 72 men, the five mounted artillery companies 132, and infantry companies 65. But in the following years actual strengths continued to decline. In 1874 Congress limited the total number of enlisted men to 25,000 and over the next two years readjusted the force but kept its authorized strength below 27,472 officers and men. As authorized, cavalry companies averaged 70 enlisted men (54 privates), artillery companies 43 (29 privates), and infantry companies 48 (34 privates). The actual strength of the Army fluctuated between 28,000 and 30,000 between 1871 and 1874, and between 25,000 and well below 27,000 thereafter, dropping below 25,000 once (in 1877).

The result of those developments was that most companies were under strength most of the time. When it is recalled that the actual strength figures included recruits not yet arrived at their units, men in transit and in hospital, prisoners in guardhouses or the United States Military Prison (established 1874), and unreturned deserters, it is apparent that the numbers of men housed in barracks fell dramatically after the late 1860s.

The effect was that, just as the housing conditions of the Army had generally reached their nadir, they suddenly began to improve, at least as regards overcrowding. Overcrowding remained a problem at many places, where there were too few barracks or the ones present were small. And certainly, throughout the 1870s some soldiers continued to inhabit brush hovels and other substandard housing. But as the decade progressed, overcrowding became less prevalent.

Other things helped as well. Through the 1870s the rate of establishment of new military posts declined, and several older posts (which had drained the repair budget) were abandoned. Although appropriations for construction and repair were erratic during the decade, and always insufficient, there was relatively more opportunity for improvement and expansion at posts that were apparently beginning to assume some (informal) permanence. Most such improvements came on the frontier. At permanent posts the construction effort went chiefly to applying the lessons and repairing the damages of the Civil War, and at the end of the decade a substantial share of the garrison still occupied casemates.

Perhaps the most interesting series of development during the 1870s was the gradual replacement of wooden furniture built on site by an increasing number of articles in general issue. That reflected not only changing official attitudes in the Army but possibly an accelerating decline of craftsmanship in the general population after the Civil War. If the Army wanted its men to have decent furniture, it must provide it, because they were becoming progressively less able to do it for themselves.

The following are the more important adjustments to the furniture inventory during the decade:

1870: Distribution of fire extinguishers began, the Babcock only at first, then the Johnson, which became most common. All posts were well supplied by 1875.

1871: During fiscal 1871 the Army distributed 5,358 Barrack bunks to locations identified in chapter 9, including 4,000 to posts in Texas. During the same period, 3,113 Composite bunks (some possibily two-story) were authorized and delivered to locations listed in the same chapter. The latter were the company's first model (appendix G), with cast-iron gas pipe uprights. During the same period, 1,600 Miller bunks were installed in barracks around New York Harbor.

1872: New standard plans for buildings at temporary posts were distributed. Following the contracts let in November 1871, during fiscal 1872 the Quartermaster Department distributed 8,666 single iron bedsteads, probably about half each the Barrack and Composite models. The Barrack bunks appear to have been shipped mostly to the South and West, the Composite to posts in the Northeast and along the coast. Toward the end of the fiscal year a bolt was substituted for the screw-bolt on the Barrack bunks already shipped. No more Barrack bunks were purchased after this fiscal year. Almost all bunks of both patterns were shipped without wooden slats, which were to be manufactured at the posts. Finally, it should be recalled that all Composite bunks shipped from fiscal 1872 to the end of the decade were of the company's No. 9 model, with Y-shaped feet and the shield at head and foot.

1873-74: By the end of fiscal 1874 the Army was nearly completely supplied with single iron bedsteads for barracks. In 1875 only 11 posts reported their men sleeping in the old wooden bunks. One, Fort Stockton, Texas, did so because the iron bedsteads had arrived without slats, and materials to make them were not available locally. In response to complaints, after 1873 the Quartermaster Department purchased slats for such circumstances.

1873: The Army adopted the new Mission Mills blanket, gray with black stripes and letters as before, but a better blanket. Purchases after the spring of 1873 were for the new blanket.

1874: Coyle bunks, 200 in all (appendix H), were distributed for testing to locations identified in chapter 9.

1875: The Quartermaster Department started to consolidate and standardize its specifications, that year for iron pots; camp kettles; and company order, descriptive, morning report, and clothing account books. Footlockers were authorized for permanent barracks, and standards adopted; limited distributions began, although many similar types were already in place unofficially. Specifications for rubber blankets were adopted. Billings proposed shower baths. The board on stoves met and prepared specifications for stoves and ranges, which were adopted; purchases of the new standard models began. Pillow sacks of tenting canvas were distributed.

1876: New specifications were adopted for blankets, changing the stripes and letters from black to indigo. Specifications for brooms, scrubbing brushes, and stencil plates were adopted. Specifications for "furniture" for cooking ranges were adopted, and the invenotry of cooking implements standardized. Specifications for iron bunks (composite) were adopted, inadvertently omitting the top bracing rod but otherwise matching the company's No. 9 model. The Coyle bunk was adopted, with the addition of a foot board matching the headboard, and admitted to future competitions.

1877: The secretary of war ordered establishment of separate reading rooms, libraries, and schools at temporary posts; distribution of literature began.

1878: Specifications for the Coyle bunk were adopted. Specifications for barrack chairs were adopted; distribution began and was completed the following year. Study of improved lighting began, but without results in barracks until 1882. Manufacture of double bedsacks ceased.

1879: Specifications were adopted for bedsacks, pillow sacks, and mosquito bars. The last double bedsacks were issued, totaling 106. The Quartermaster Department apparently resumed shopping for single iron bedsteads as replacements for aging units.

1880: Procurement of replacement bunks apparently resumed; all acquired thereafter, despite the specifications, were of the Composite Iron Works Company's No. 10, with shortened frames and no shield, which the company had tried unsuccessfully to offer in 1873.

Conditions in temporary barracks varied so widely and changed so rapidly during the 1870s that an average for any one year would be exceedingly arbitrary. By 1879 or 1880, however, the furniture inventory had stabilized, with most general issue objects available at most places. In addition, construction was generally standardized on the frontier after 1872 (although each post's plans were individual variations of the general design), and the maintenance backlogs widespread in 1870 seem by 1880 to have been made up. That is, most (not all) barracks had had floors and ceilings installed, and there were fewer reports of falling plaster or collapsing roofs. The occasional disorderliness of the men at the start of the decade had evidently been generally curbed by its end.

The standard plans issued in 1872 (appendix B) guided the construction of a number of barracks during the decade, with adjustments to local conditions, to be sure. Nor was it remarkably different from many of the barracks started in the late 1860s, so adjustments to older structures are rather obvious. Another advantage of following the 1872 plan is that it represents the maximum division of space that any barracks would have--dormitory, two rooms for noncommissioned officers, dayroom, armory, library, washroom, mess room, kitchen, cook's room, and pantry or storage. Not all of those purposes were served under one roof at all posts, nor were all purposes even served at all everywhere. For a company lacking a library or dayroom, for instance, the uses would have been transferred to other space or not served at all. Libraries seem chiefly to have been in separate buildings serving entire posts rather than one company.

It should be noted that the 1872 plan shows the placement of 58 bunks in the dormitory. More could be accommodated if necessary, while fewer would relieve crowding. They could also be stacked in daytime. Privates and corporals occupied the dormitory, while sergeants were accomodated in the other rooms. The average authorized complement of companies in the 1870 organization was as follows:

Cavalry: 1 first sergeant, 1 quartermaster sergeant, 5 sergeants, 70 other ranks
Artillery: 1 first sergeant, 1 quartermaster sergeant, 4 sergeants, 68 other ranks (not mounted)
Artillery: 1 first sergeant, 1 quartermaster sergeant, 4 sergeants, 126 other ranks (mounted)
Infantry: 1 first sergeant, 1 quartermaster sergeant, 4 sergeants, 59 other ranks

Clearly, the 1872 plan was prepared with the authorized infantry company in mind, at least regarding bedspace. There was some reason for that, because the infantry was the major branch of the Army. But the 1870 organization did not last long. After 1874 the average authorized companies were as follows:

Cavalry: 1 first sergeant, 5 sergeants, 65 other ranks
Artillery: 1 first sergeant, 4 (in 50 companies) or 5 (in 10) sergeants, 38 other ranks
Infantry: 1 first sergeant, 4 sergeants, 43 other ranks

The "other ranks" in the lists above were mainly privates and corporals, but depending upon the arm included trumpeters, farriers, blacksmiths, artificers, saddlers, and wagoners. Some of those specialists may have been housed near their work, but the commonest practice was to maintain companies together.

The orderly room (the name was borrowed from the British Army, where first sergeants were "orderly sergeants") served as the private apartment of the first sergeant and as the company office--often the only one available to the officers outside their homes. But since the first sergeant really ran the company, it was his domain, the place where he did the paperwork, handed out instructions, and dressed down miscreants.

The status of the orderly room had probably not stabilized by 1880. The position of first sergeant, as such, had only appeared in the table of organization in 1861, and the custom of allowing its occupant segregation from the rest of the barracks seems to have developed indifferently. There is some question, therefore, about the extent to which, even by 1880, the Army would have regarded the orderly room as a private apartment for the first sergeant, or as his office, in which he also slept. That it was an office seems most likely, because the barracks plans issued in 1860 (appendix B) and others issued during the Civil War set aside one room as an office without offering separate accommodations for sergeants, first or otherwise. The office function probably moved with the first sergeant in the 1872 plan, although that was flexible enough to allow other rooms to serve the purpose. When companies had quartermaster sergeants, they probably shared rooms with first sergeants. After 1874 the first sergeant had his room to himself and was more likely than before to maintain his office there.

The dayroom, when there was one, was the general purpose room for the company, used during off hours. This was where a company would have placed the major share of its few candles, and where it would most likely have had other candles or permitted lamps purchased with company funds. If there was a company library and no other space for it, it would have been here. All other general company property, such as baseball equipment, would have been found here if not in a storeroom. But it should be noted that mess rooms had long served also as dayrooms, and that the latter were not anywhere near universal by 1880.

Although an armory is called for in the 1872 plan, even in much later times such facilities were by no means universal. Arms were routinely locked up wherever stored. Ammunition was ordinarily in the post magazine, but where there was no magazine, reports of ammunition storage in barracks were common. If an armory was present, it was kept locked.

The 1872 plan also shows a room for a library, but company libraries appear to have been less common at the end of the 1870s than separate post libraries. It is more likely that the space was used as a storeroom.

The washroom was not for the men, but for their laundry. It was a clear descendant of that shown in the Barracks Regulations of 1860, for which things like tubs and washboards were specified. It was located conveniently to the rear door of the building, giving laundresses access to the laundry kettles, to the lines where they hung clothes to dry, and to wherever they dumped used water if there was not a chute or drain pipe. When plumbing was installed in barracks (rare before the 1880s), the laundry room and kitchen typically received it. Here the company's two or three laundresses worked, doing the men's underclothes and blankets in water, and sponging and pressing uniforms at times.

The mess room underwent little evolution before 1880, which is understandable. Unless also serving as a dayroom, it needed to be nothing more than a simple place to eat, where the cooks and waiters were privates rotated for the duty.

The kitchen, of course, was dominated by the cooking range. Those issued after 1875 had water backs; any remaining from an earlier purchase were probably much like the later standard ranges, which according to the Army's stove board were based on ranges produced by Miller of Cincinnati. The kitchen was spotlessly clean and orderly for inspection, but it was nearly always in use, the range seldom growing cold. One of the duties of inspectors was to observe the quality of cooking and of the food prepared for the troops, so cooking would not cease merely because an inspector was coming through.

The pantry or rations storeroom just off the kitchen received rations as distributed to the company, often weekly or even monthly depending upon local practice and space at the post commissary. Some things, such as extracts and major condiments, were distributed in annual or semiannual increments for storage in company kitchens.

The last room set aside in the 1872 barracks plan was the cook's room. There is no reason to believe that this space was ever occupied as quarters, and considerable evidence against it. Officially, at least, the Army did not yet have full-time cooks; men were detailed from the company to serve as cooks, helpers, and waiters. Quarters next to the kitchen were likely uncomfortable, especially in summer, and the surgeons objected vehemently to anyone sleeping where "effluvia" from a kitchen could reach him. Further, every cook needs to get out of the hot kitchen occasionally, and everyone needs a place to sit down and rest. Finally, the "bull" or boss cook had paperwork to do. He kept track of his inventory and accounted for all rations received and served, including the daily bread charged against the company account. His accounts were reviewed regularly and passed on to his successor in the rotation.

The distribution of general issue objects, especially bedsteads, and other considerations had blurred the distinctions between permanent and temporary quarters by the late 1870s, except for the quality of the buildings. Recruiting depots tended to be more crowded in general, and to have fewer objects besides bedsteads, than other quarters. And at many of the coastal fortifications, the men remained in casemates or tents, along with their hopsitals.

Guardhouses:

Guardhouses continued to be managed indifferently during the 1870s, despite some attempts at penal reform during the decade. It would appear that no two were alike, and that may have continued to be the case even after the issue of a standard plan for guardhouses at temporary posts in 1872 (appendix B). Actually, that plan may be more informative for guard and prison facilities at permanent posts than for temporary locations. Those facilities were commonly associated with gates at the big posts, and the 1872 plan is quite clearly modeled on the gate-flanking pattern. But whether permanent or temporary, the 1872 plan reflects the common general pattern: Guardhouses had a room for the guard, another for the officer, a common prison room, and cells. The 1872 plan envisioned no furniture (other than that authorized for an office), resting both the guards and the prisoners on a "banquette" or shelf. But it is known that many guardhouses did have some furniture for the guards, although usually not for prisoners. The variations probably equalled the number of guardhouses.

Prison rooms and cells were almost always dark, poorly ventilated, malodorous, disgusting places, routinely condemned by the surgeons. The facilities for the guard were often little better. Standards of maintenance and sanitation were nowhere high and often nonexistent. No one, it appears, wanted to give the subject much attention. Except for the surgeons, officers seem to have all but ignored it. The enlisted men all had the experience of serving in the 24-hour guard rotation, and many of them that of confinement. Neither was enjoyable or offered any incentive to take care of the facilities.

APPENDIXES

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APPENDIX A
CONTEMPORARY OBSERVATIONS

The purpose of the appendixes to this report is to provide a convenient sourcebook for use in investigating or interpreting 19th century army buildings. Since some of the material was discussed or presented fully in the text, there is necessarily some redundancy, although most of the appended materials received only summary treatment earlier.

Redundancy for the sake of convenience is greatest in this first appendix, which presents quotations of historic comments on the subject, arranged in categories similar to those dividing chapters in Part IV. Many of the original commentaries offered here, however, appear for the first time in this report.

It ought to be pointed out that this appendix begins with excerpts from old army songs, drawn from a single compilation. It should be noted that, soldiers' songs being what they are, some of them have been freely translated from the obscene. And since such lyrics evolve relatively fast, some of the versions presented are arbitrarily one of many. And although no attempt is made here to present every 19th century song touching on barracks furniture, it is interesting to note how few there are, in proportion to the total of unofficial military music. But it is hoped that those few give a small taste of the private soldier's attitude toward life in the barracks.

A Musical Interlude

"The Army Bugs"

Soldiers sing of their beans and canteens,

Of the coffee in old army cup,

Why not mention the small friends we've seen,

Always trying to chew armies up?

Chorus:

Those firm friends, tireless friends,
   Hardly ever neglecting their hugs,
Their regard never ends--
   How they loved us, those old army bugs.

--Dolph, Sound Off, 317; to the tune of "Sweet Bye and Bye"; probably Civil War period.

"Army Graybacks"

Shall we ever forget when we fought for the Union,
All the pleasure we sowed and the sorrows we reap't?
How we foraged for eggs and were robbed by the sutlers,
And the bugs that we nursed every night when we slept?
But those memories of war-time make food for reflection,
And cause the goose pimples to run o'er us yet;
As we cast a glance backwards to the skirmishing graybacks,
Those momemts so lively we'll never forget.
Those jolly old graybacks--notorious graybacks.
Those blood-thirsty graybacks we'll never forget.

Shall we ever forget when we first scraped acquaintance
With the bug most prolific this world ever saw?
And the mantle of blush that shown forth on our features,
When discovered aloof executing the law. (Crack finger-nails twice)

But soon we grew bolder when we found that all others
Were scratching as if it were festive and nice.
So when on long marches a brief halt was ordered,
We'd haul off some duds and go hunting for lice.
We all had to do it; we'll never forget it'
'Twas fun in two volumes to skirmish for lice.

--Ibid., 317; to the tune of "Old Oaken Bucket."

"The Regular Army, Oh!"

There's corns upon me feet, me boy, and bunions on me toes,
And lugging a gun in the red-hot sun puts freckles on me nose,
And if you want a furlough to the captain you do go,
And he says, "Go to bed and wait til you're dead in
    the Regular Army, Oh!"

--Ibid., 6-9; this version, one of several current in the Army (few of them printable) in the 1870s, was written down by Ed Harrigan in 1874.

"There is No Work in the Army"

There is no work in the Army,
They call it all fatigue;
If the Provost catches you loafing,

He'll make you dance a jig.
It's either at the saw-mill,
Or shoveling up the clay,
Policing up or rolling rocks,
The long, long weary day.

--Ibid., 34-37; this is the chorus of a song popular in the Army in the 1890s, but versions of it are far older; compare its sentiments with comments below from the 1820s.

"O'Reilly's Gone to Hell"

O'Reilly swiped a blanket and shoved it up, I hear;
He shoved it for a dollar and invested it in beer.
He licked a coffee cooler because he said he'd tell.
He's ten day absent without leave. O'Reilly's gone to hell.

--Ibid., 54-56; Dolph says this was written in the late 19th century by Col. Gerald E. Griffen in "tribute" to the Irish sergeants of the post-Civil War Army.

"I Don't Want No More Army"

The officers live on top of the hill;
We live down in the slop and swill--

I don't want no more army.

Lordy, how I want to go home!

--Ibid., 10-11. Dolph has little to say about this standard, but its origins are probably as ancient and mysterious as those of "What Do You Do with a Drunken Sailor?" Like that other classic (also popular in armies), it is a ready vehicle for extemporaneous execration of life's nuisances. Innumerable versions of both have come and gone over the centuries; this one, possibly from as late as World War I, is one of the few that are fit to print.

Conditions in General

1804:

Being of opinion that for the general defence of our Country we ought not to rely on Fortifications but on men and steel, and that works calculated for resisting batteries of Cannon are necessary only for our principal seaposts, I cannot conceive it to be useful or expedient to construct expensive works for our interior military posts, especially such as are intended merely to hold the Indians in check.

--Secretary of War Henry Dearborn to Gen. James Wilkinson, June 28, 1804, quoted in Prucha, Sword of the Republic, 173.

1805:

Fort Detroit, Michigan--But, if brick cannot be made in the vicinity of the Fort, other materials should be procured . . . for erecting two barracks, each sixty two feet in length, twenty in width, and one and a half story in heighth; each barrack to be divided into four rooms, exclusive of the half story, which should be occupied for lodging rooms. Each lower room should have a large fire place, with a closet on one side, and a stair way on the other, to ascend to the lodging rooms; and should also have two windows of twenty squares of 7 by 9 glass each. To each upper room there should be one lutheran window of twelve squares of like glass. The walls of the half story should not exceed 3-1/2 feet in heighth.

--Dearborn to Commanding Officer at Detroit, Aug. 5, 1805, quoted in ibid., 173-74.

1820:

The ax, pick, saw & trowel, has become more the implement of the American soldier than the cannon, musket or sword.

--Zachary Taylor to Jesup, Sept. 18, 1820, quoted in ibid., 169.

1826:

Fort St. Philip, Louisiana--The condition of the buildings at Fort St. Philip is such as not only to forbid every thing like comfort, but to endanger the lives of the troops. Measures have been adopted to erect new barracks, quarters, and hospitals at that post, and materials have been collected in part for that purpose.

--ARQMG 1826.

Fort Atkinson, Nebraska--Look at Fort Atkinson and you will see barn yards that would not disgrace a Pennsylvania farmer, herds of cattle that would do credit to a Potomac grazier, yet where is the gain in this, either to the soldier or to the government? Ask the individual who boastingly shews you all this, why such a provision of hay and corn. His answer will be, to feed the cattle. But why so many cattle? Why--to eat the hay and corn.

--Prucha, Army Life, 5-7; all quotations from this book are the words of Inspector General George Croghan.

1827:

[Troops are expected to be able to] cover themselves comfortably wheresoever timber is to be found.

--Jesup, quoted in Risch, Quartermaster Support, 210.

Fort Crawford, Wisconsin--To erect permanent quarters with suitable defences an appropriation is necessary.

--ARQMG 1827.

Post at Petite Coquilles, Louisiana--[There are] the inconveniences of a heavy police, with old and but temporary and ill-constructed barracks, requiring frequent repairs . . . . The mess arrangements, and the condition of the barracks and bunks, though not altogether as perfect as under more favorable circumstances they should be, were quite as good as could reasonably be expected in these wretched barracks.

--Gaines, Report of Inspection, 110.

Fort Crawford, Wisconsin--[The fort is composed of wooden blockhouses and huts] so much decayed as to be uninhabitable without extensive repairs [and even with repair they would remain unhealthy]. The floors and lower timbers are decayed in part by frequent overflowing of the river, which has left the wood soaked and filled with damp sediment. [Previous flooding has been as deep as four feet in the barracks. Police and discipline at the post are good] notwithstanding the rough, dirty, and decaying barracks, without bunks, render it impossible to keep the clothing, bedding, arms, &c, in as good order, with equal or even increased attention, as at Fort Snelling.

--Ibid., 123-25.

1828:

Quartermaster Department--The duties of the officers of this department relate principally to the movement and quartering of the troops, the purchase, preservation, and distribution of public property, the erecting of barracks, storehouses, hospitals &c., and the survey and construction of military roads.

--ARQMG 1828.

1838:

Fort Brady, Michigan--The bunks are defective in this, that the lower tier, being on the floor itself, must of course remain damp for some time after the changers have been washed out. I would remark that the chambers themselves from want of proper ventilation have in damp and warm weather a foul, unpleasant smell, which must become worse as the timbers of which the buildings are erected decay. To obviate this (in some degree at least), windows must be made on the rear of the several apartments to correspond with those in front.

--Prucha, Army Life, 46.

[The War Department] has adopted regulations to govern the engineer, quartermaster's, and ordnance departments in the construction of the buildings under their superintendence, so as to avoid all unecessary extravagance, and at the same time secure solidity, uniformity, and durability.

--ARSecWar 1838, 105.

1839:

If it be contemplated to establish posts on the route surveyed between Forts Leavenworth and Snelling, I would recommend that the ordinary log cabins and block houses of the frontier alone be constructed, and with as little expense as practicable.

--ARQMG 1839, 114.

[The troops in the field in Florida fighting the Seminoles] have suffered less from sickness and lost fewer men by disease, since they came into Florida than while they were stationary at their posts.

--ARSurGen 1839, 147.

1840:

Prussian army barracks, Berlin, Germany--The basement contains cook and mess-rooms; furnaces, each of which heats five rooms above, and offices; the first floor and the second, lodging-rooms, with iron bedsteads; and the attic, company clothing-rooms.

--AROrdnance Department 1840, 66.

[The United States Army is] the best paid, the best fed, the best clothed, and the worst lodged army in Christendom.

--Secretary of War Poinsett, attrib.; "Barracks and Quarters," 492.

1840s:

Perfectly isolated as these outposts are . . . the soldier [must] . . . kill the hours of a tedious solitude, and beguile away the extreme loneliness of his situation.

--Francis Wyse, quoted in Kemble, Image of the Army Officer, 60.

1842:

Fort Brady, Michigan--The quarters of both officers and men are in a dilapidated condition. The floors of all of them have sunk more or less. The doors no longer swing perpendicularly on their hinges; the porticoes are rotten; in truth, nothing is as it should be save the roofing, which is sound and tight throughout.

--Prucha, *Army Life*, 47.

1843:

[There is an] extreme want [of barracks and hospitals at the seacoast fortifications,] cramped and most unwholesome *casemates* now in general use for both purposes. . . . [I]t would seem against the interest of the country and the credit of the Government, to lodge troops, with their sick . . . in such miserable places.

--ARCommanding General 1843, 64.

Madison Barracks, New York--The quarters are in good repair, and as I had a right to expect, they are clean and neat. It is but seldom indeed that neglect of proper police can be justly charged against any of our garrisons. The drill may be sometimes neglected, but police, I might almost say, never.

--Prucha, *Army Life*, 50.

Fort Brady, Michigan--The appearance of the post has greatly improved within the last 16 months; new floors have been laid in most of the quarters, the porches have undergone material though perhaps not sufficient repairs . . . for truly patch as you may, the old barrack will fall to pieces from its own rottenness in a few years.

--Ibid.

1844:

Fort Washita, Oklahoma--The quarters of the men are convenient and comfortable; each company has two blocks or sets of houses, containing two rooms of 17 by 19 feet, separated by a hall or passage nine or ten feet wide. These houses are of oak logs hewn on the inside, and though built with no eye to permanency, they will nevertheless answer every purpose for some years or until the command can make bricks and provide the necessary lumber for the erection of barracks of a better and more durable description.

--Ibid., 51-52.

Fort Smith, Arkansas--The quarters of the commandant alone are in good condition. All the others, whether of officer or soldier, are rapidly approaching to dilapidation, and although at present habitable, they will in the course of a year or two tumble down. In truth, but for the pains taken to avert such calamity by the use of props and other modes of strengthening, some of them would have been down ere this. They all stand upon wooden posts two or three feet high, which rotting of course cause the superstructure to settle and in some cases to separate, as none of them are held together by girders as is the case with the house of the commandant. All the buildings are put together somewhat after the

Canadian manner, short logs let into grooved uprights and with no seeming regard to stength or durability.

--Ibid., 52.

Fort Gibson, Oklahoma--[The quarters are] sadly out of repair [and also very uncomfortable. But they are better than before, because the pickets have been cut down and windows cut into the backs of the barracks.] Pent up as they were before this change was made, the wonder is not that the men became sick but that any lived.

--Ibid., 53.

1845:

Fort Des Moines, Iowa--[The quarters, hospital, and all other buildings are built of] round unbarked logs . . . finished in the plainest manner. [But the commanding officer should not be criticized for that because] no frontier post established for a temporary purpose or for occupancy not to exceed six or seven years ought to cost more than five hundred dollars.

--Ibid.

1850:

Benicia Arsenal, California--One barrack, with bunks for soldiers, eighty feet long, thirty feet wide. [Of a total lumber bill of $840,351 for all buildings, $5,000 was spent on lumber for] the manufacture of bunks, office furniture, &c.

--ARQMG 1851, 309-317.

Benicia Arsenal, California--[The lumber imported from Oregon was very rough, heavy, and hard to work. Because the materials were unavailable, plastering of interiors was deemed impractical, and] ceiling with planed boards was substituted. To prepare these rough and hard boards with the hand plane was tedious and laborious, and has added largely to the time of construction, as well as cost.

--Ibid., 304.

[Iron houses are being shipped to California] to be exposed to a trial of their fitness before others of that material be introduced into the service. [They will be used as barracks and quarters at Tulare Lake if there is no timber to be found there for the troops to build their own cover.]

--ARQMG 1850, 267.

Camp Arbuckle, Oklahoma--[All buildings are of log, hastily thrown up, with log and mud chimneys.] The men occupy a log building about twenty-five by two hundred feet, divided into about four rooms, besides the kitchen.

--Glisan, Journal of Army Life, 52.

1851:

Fort Worth, Texas--Quarters for one hundred and twenty men, built of logs and puncheons--without floors--mud and stick chimneys, with kitchen; and officers' of same construction, covered with clapboards--very temporary.

--ARQMG 1851, 270.

Fort Duncan, Texas--Six grass houses occupied by the companies, built entirely of willow poles and grass, no floors or windows.

--Ibid., 279.

1852-53:

Fort Leavenworth, Kansas--And now we were settled down in comfortable quarters for those times. A bed sack, refilled with prairie hay (Arnold called it prairie feathers) once a month, and a pair of soldier blankets, with overcoat, or anything else one could utilize for a pillow. If the Government allowance for wood was not sufficient, we took a company team, made a detail, and hauled more from above the post. . . . . Cook got some barrels and had them sawed in two for bath tubs, which we could use in the dining room between supper and tattoo.

--Lowe, Five Years a Dragoon, 76-77.

1853:

[The appropriations for barracks and quarters should be increased in order to provide] better accommodations than have been provided for [officers and men] heretofore. [Suitable housing standards have been set by the Navy and at marine barracks and arsenals, but not at very many military posts.]

--ARQMG 1853, 132.

Fort Union, New Mexico--The quarters occupied by the respective companies were in a good state of police, and the comfort of the troops studied in all the details.

--Frazer, Mansfield on Condition, 33; all quotations from this book are the words of Inspector General Joseph K. F. Mansfield.

Fort Definance, New Mexico--The quarters of both officers and soldiers are falling to pieces. The timbers had rotted away--some of the troops were in tents. The hospital in a good state for the sick and the public store houses worthless.

--Ibid., 51.

Fort Webster, New Mexico--The quarters and buildings of the command were in a good state of police, but quite indifferent and insufficient, the post not having been completed. Major Richardson's company were in tents, and the sick were in a tent as there was no hospital. The comforts of the troops, however, both sick and well, studied and suitable corrals for the horses and public animals.

--Ibid., 53.

1854:

Presidio of San Francisco, California--The quarters of the soldiers were miserable adoby buildings, the leavings of the Mexican Government, but were kept in good police and order . . . . A temporary barrack for the soldiers has been subsequently erected by order of General Wool. A remodelling and rebuilding of this post and quarters will be necessary at a future day when they will be required for troops to man the fortifications &c &c.

--Ibid., 135.

Post at Mission of San Diego, California--The quarters of the soldiers at present are worthless: Company I occupies some miserably old adobe buildings, and Company F are in tents. . . . Captain Burton with his men is converting the old church of this mission into an excellent barrack for the soldiers, two stories high, the walls being thick and firm. But most of the other buildings . . . being merely ruins, should be leveled. . . .

--Ibid., 143-44.

Fort Miller, California--The quarters were neat and comfortable, altho' quite contracted.

--Ibid., 151.

Fort Reading, California--The quarters were in excellent order although unfinished and a little limited as to kitchens for the men.

--Ibid., 160.

Fort Humboldt, California--The troops have done a great deal of work, and put up all their quarters . . . at a small cost in purchasing materials and hiring labour so that all the quarters of this post have cost only 11,664-93/100 dollars, and the men have supplied their own wood and made a very valuable garden.

--Ibid., 163.

1856:

Fort Union, New Mexico--[All the barracks are falling down, but have worse features than collapsing roofs.] The unbarked logs afford excellent hiding places for that annoying and disgusting insect, the cimex lectularius, so common in this country, which it is by no means backward in taking advantage of, to the evident discomfort of those who occupy the buildings. [Whenever the weather allows, the men almost always sleep outdoors.]

--The post surgeon, quoted in Emmett, Fort Union, 201-02.

Fort Pierre, Dakota--Officers and men suffered alike. The miserable huts in which we lived during the winter were unfit for stables. We almost froze in them, and when the spring came, the mud roofs leaked like sieves.

I look back upon the winter passed at Fort Pierre as one of great suffering and hardship, by far the worst that I went through during my service.

--Meyers, *Ten Years in the Ranks*, 106-07.

Construction of Fort Lookout, Dakota--One of the first things the master-mechanic did was to erect a whipsaw for getting out flooring and roofing boards. This saw was worked by two men, one above and the other below the elevated log. It was slow, laborious work.

--Ibid., 117.

1857:

[The low quality of the Army's quarters was among the principal causes] of desertion, disease, and mortality. [The men live in casemates at the coastal fortifications, and on the frontier] either in tents (winter as well as summer) or such miserable bush and mud huts as they have hastily constructed for the moment.

--ARCommaning General 1857, 49.

Fort McHenry, Maryland, both barracks--Backs and [illegible] of fire places repaired, plastering and floors . . . repaired in places and repainted.

--J. L. Donaldson to Lieut. Col. H. Brooks, July 3, 1857, QMConFile--McHenry, Fort, RG92.

AVAILABLE

1858:

I must also again beg attention to the miserable state of the barracks or quarters at nearly all our permanent fortifications and posts. Health and efficiency as well as comfort must be sacrificed where strict attention is not given to the lodgings of men.

--ARCommanding General 1858, 762.

Fort Miller, California--Barracks for Men. [Rooms] 6. [Condition] Very bad--Rooms small. [Remarks] No ceiling to four of the rooms. No bunks to same.

--Statement of the Number and Condition of Buildings at Fort Miller, Cal. . . . op. cit., RG92.

Civil War:

Training camp barracks--To such as are not familiar with these structures, I will simply say that they were generally a one-storied building not unlike a bowling-alley in proportions, having the entrance at one end, a broad aisle running through the centre, and a double row of bunks, one above the other, on either side. They were calculated to hold one company of a hundred men.

--Billings, Hardtack and Coffee, 35-36.

[Tents are in short supply.] The French soldier uses only the shelter tent. Whenever encamped for any length of time, he is required to construct huts of small stakes, wattled with brush or straw, and thatched. The walls, for winter use, are plastered with clay mortar.

Such an encampment can be constructed by the troops in eight days, and will last, with occasional repairs, for eight years. The attempt is being made to introduce this practice among our soldiers, who, from their skill in the use of the axe, and the abundance of suitable timber, can construct huts with great facility.

Such camps are drier, better ventilated, and more healthy than tents during inclement weather.

--ARQMG 162, 73-74.

Convalescent Camp Barracks and "Contraband Quarters," Alexandria, Virginia, probably 1862--3 months time for 56 men, building barracks. Flooring dressed, tongued and grooved, and lumber for bunks dressed. 2500 Window Sashes Furnished and glazed and painted. All the roofing done.

--"Statement of Buildings, etc., erected . . ." op. cit., RG92.

British Army barracks, England--Well, each man of us here has a bed to himself, with an arm-rack behind it, and two or three pegs in the walls above to hang belts, &c., upon. The bedstead is of iron, about two and a half feet wide, and hinged in the centre, so that it can be turned back in the daytime and form a seat. To each cot there is a mattress, a pillow (both stuffed with straw, and ungrateful to the bones at first, but we soon get used to that), two blankets, two sheets, and a rug. The sheets are changed every month, the blankets every three or four months.

Shelves run round the room, which is also furnished with a cupboard, two tables, four forms, a plate and a basin for every man, a large long-handled scrubbing-brush, a broom, small hand-scrubber, a tin-pail, a wooden pail, a wooden box with handles to contain coals, with poker, shovel, &c. The tables have moveable tops fitting upon iron stands; and the cupboard doors are of iron-wire, like those of a meat-safe. The basins are made to serve the purpose of tea-cups also: Knife, fork, and spoon, as I have said, are provided in the kit. Of course I do not know that these details are the same in all barrack-rooms; but . . . I should expect to find few differences elsewhere.

--"Life in a Barrack," 54.

Approving plans for barracks for New Hampshire Volunteers, 1863--The plan will be so modified as to limit the expense to what is absolutely indispensable for the comfort of the troops.

--Brig. Gen. E. R. S. Canby to Gen. D. H. Rucker, Dec. 22, 1863, QMConFile--Barracks, Plans for, RG92.

1865:

Construction and extension of all barracks, hospitals, and other buildings, will cease, unless authorized upon special report, which in all cases of necessity should be made immediately by telegraph.

--General Orders of the Quartermaster Department No. 24, Apr. 29, 1865, par. VII, RG92.

1866:

[It is the intention of the Quartermaster Department to offer better accommodations than in the past, to make quarters, reading rooms, and mess rooms] more attractive than the sutler's shop and the groggery.

--Meigs to William T. Sherman, July 9, 1866, quoted in Risch, Quartermaster Support, 484-85.

Sod barracks, probably Fort Sedgwick, Colorado--Dirt, dampness, disease, vermin, all infest such structures, and the United States Government, I take it, means better than that by the faithful troops that serve it.

--J. F. Rusling to Meigs, Sept. 12, 1866, quoted ibid., 484.

Sod barracks, Fort Sedgwick, Colorado--Surely, had the southern planters put their negroes in such hovels, a sample would, ere this, have been carried to Boston and exhibited as illustrative of the cruelty and inhumanity of the man-masters.

William T. Sherman to Meigs, Aug. 1866, quoted in ibid.

1867:

Fort Cummings, New Mexico--The floors were dirt. In some rooms army blankets were fastened down with wooden pegs for carpets.

--Parker, Annals of Old Fort Cummings, 11.

1868:

It is a common remark among troops, that as soon as they make their quarters comfortable and convenient, they have to leave them. I am inclined to believe that the same results attend Frontier Posts; by the time they are made habitable and comfortable, the necessity that caused their construction has passed away,--a new line of defense is adopted, new posts are constructed at more remote points, and the old ones abandoned. Military Posts are matured villages planted in the wilderness to decline and decay as other villages of more permanent character steadily grow up around them. It would seem unwise, then, to say the least, to attempt the construction of permanent buildings, whose stone walls and chimnies a few years hence will serve as monuments to mark the waste of money, as those of Forts Phantom Hill and Belknap now do.

--E. J. Strong, Quartermaster General of the Department of Texas, quoted in Haley, Fort Concho, 132.

Camp Emory, Georgia--The quarters for the Cavalry are wooden boxes, floored raised six inches above the ground, roofed with "A" tents. Average occupancy of each--six men. Each tent or box is furnished with three double bunks and has suitable racks for carbines and sabres; also, has a brick fire place, hearth and chimney.

--Report on Living Conditions at Posts in the South, RG112.

1869:

[The Army occupies 5,1[illegible] buildings of all types.] Many of them, probably most of them, are of very rude construction . . . .

--ARQMG 1869, 222-23.

1870:

The most important structures at a post, in a hygienic point of view, are the barracks proper, or soldiers' quarters, the guard-house, including the prison-rooms or cells, and the hospital; and the object to be kept in view in their construction is to furnish shelter without diminishing that supply of pure air and light which is necessary to health.

--Billings, Report on Barracks and Hospitals, vi.

[Mortality from disease (excluding epidemics) is 50 percent higher than it need be in the Army, caused by things that could be avoided. Chief among them is the] bad sanitary condition of barracks. It has been said that we have the best-fed and the worst-housed Army in the world, and the statement seems more nearly correct than such generalizations usually are.

--Ibid., xxxii.

Fort Buford, Dakota--[Conditions in the barracks are generally bad; they are dim, have little ventilation or light, and lack bathing facilities.] Steam and effluvia [pass from the kitchen to the quarters, making them] very disagreeable. The fact that there is no store or lumber-room connected with the barracks is made evident by the accumulation of sundry articles in the kitchens, mess-rooms, and sleeping rooms, to the great detriment of the good order and neatness of the quarters.

--Ibid., 402.

Fort Larned Kansas [Making barracks too wide is a common error. Fort Larned is an especially bad example, with] dormitories 40 feet square and 10 feet high; it is almost impossible to ventilate them properly.

--Ibid., xvi.

Fort Wallace, Kansas--The cheerlessness of these accommodations is mitigated by a rigid system of cleanliness and white-washing.

Ibid., 310.

Fort Washington, Maryland--[Both barracks are overcrowded, and] fitted with iron bedsteads, double lockers, and gun-racks. The kitchens in both barracks are well furnished, have large and very fine cooking stoves, and well selected mess furniture; they are now artificially lighted by candles, and heated by coal stoves, burning anthracite coal; there is no provision for bath-room or reading room in either.

--Ibid., 70.

Fort Concho, Texas--[The barracks are one-story, with dormitory, mess hall, and kitchen, and] an attempt has been made to floor them with concrete, but with little success.

--Post surgeon, quoted in Spaulding, United States Army in War and Peace, 344.

Fort Davis, Texas--B. Co. . . . . Quarters neat, except no uniform arrangement of clothing or knapsacks. C. Co. . . . . Quarters, Neat and more orderly. K. Co. . . . Quarters--floor cleaner, Barracks very disorderly. Bedding & clothing carelessly folded and much clothing thrown unfolded on the bunks.

--Medical History of Fort Davis, Jan. 5, 1870.

Fort Davis, Texas--B. Co. . . . Quarters neat and orderly, except the window sills very dusty, and no regular or uniform arrangment of Knapsacks. C. Co. . . . Quarters much improved, mean neat & orderly. K. Co. . . . Quarters, better, but not so neat as the others, unblacked boots & shoes, and rubbish of various kinds thrown under the bunks. Window sill very dusty. There is in all the Quarters a want of system of arranging the boxes. Many of them being placed in the middle of the floors and used to sit on. I would suggest that several benches be provided for each Barrack.

--Ibid., Jan. 7, 1870.

Fort Davis, Texas--The quarters of the two Cavalry companies are very disorderly-floor not swept-bunks not arranged, and clothing of all kinds promiscuously thrown about. The absence of so many men from the barracks is not considered sufficient reason for their disorderly condition.

--Post surgeon's inspection report, Jan. 13, 1870, Records of the United States Army Commands, Fort Davis, Texas, Selected Documents, 1867-1889, RG98, NA Microfilm NMRA 66-783 (7675)6.

1871:

The appropriation for barracks and quarters has not been sufficient to shelter the Army in a manner essential to its comfort and health, and hence it is earnestly desired that the appropriation asked for that purpose may not be reduced.

--ARSecWar 1871, 9.

1872:

Fort Davis, Texas--But two of the Barracks . . . are completed. Nor are they really finished. They were plastered inside, but very badly, and the greater part of the plastering has long since fallen off, and no attempts made to repair the walls. The barracks are very untidy, dirty, and disorderly. They have earth floors, which, by want of proper attention, are very dusty--and soil all articles of clothing in the barracks. The mess rooms and kitchens are not plastered--have earth floors--and are equally as dirty and untidy as the barracks. Nor is the Police as well attended to as formerly. The troops are now supplied with single iron Bunks, and bedsacks filled with hay and blankets, but their beds are never tidy, or orderly. [The barracks are also severely overcrowded.]

--Medical History of Fort Davis, May 1872.

Newport Barracks, Kentucky--The last two days of our stay, we were kept shut up in our "quarters"--a big room on the third floor. The room was literally packed with recruits. The old "double decker" bunks--four men occupying each bunk--stood thickly along each side of the room.

--Cox, Five Years in the United States Army, 12-13.

1874:

Fort Stevenson, Dakota--[Six years after their construction, the barracks still] lack ceiling and sheeting [and the cottonwood floors are worn out and rotten.]

--Mattison, "Old Fort Stevenson," 30-31.

1876:

[Regarding dirt floors,] it is a little unpleasant at first to be smothered with dust every time you walk across the room or whenever the door is opened . . . .

--Soldier's letter, quoted in Rickey, Forty Miles a Day, 95n.

1879:

Fort Stevenson, Dakota--The partitions in both wings [of the barracks] are inch pine plank, white-washed.

--Inspection report, quoted in Mattison, "Old Fort Stevenson," 34.

1880-81:

[On the question of whether an entire company should be housed in one large room or several smaller ones, opinion is divided.] The English, who have tried both systems, have finally settled on a sleeping-room of twenty-four beds as the best of their organization. [American enlisted men, when asked, all prefer the smaller rooms.]

--Anderson, "Army Posts, Barracks, and Quarters," 431-33.

Our Engineer Department will not, so far as can now be foreseen, recommend to the Secretary of War, that any attempt be made to provide quarters for the occupation in time of peace, of the garrisons of permanent works of defense yet to be erected, when there is room for such quarters on the exterior.

Casemates are now called war quarters by the engineers, and their use in time of peace as quarters for either officers or men, will doubtless be given up as soon as it can be done.

--Ibid., 446.

1886:

[Requests of post commanders for insect exterminators are denied, because the government cannot] afford to pay the expense of a bed bug war.

--Quoted in Foner, *United States Soldier Between Wars*, 18.

1939-42 (but timeless):

Nobody today realizes what a big part of the army life bedbugs played. . . . The big problem was the bedbugs at night. . . . You always had blood on your chest. . . . After a while you got used to the fact that you had somebody else in bed with you. You just brushed them off and went back to sleep. We knew we had to live with them.

--Joseph R. Blaise, interview with the author, Oct. 30, 1981.

Bunks and Arm Racks

1820:

Cantonment Missouri, Nebraska--The construction of the bunks in the Rifle Regiment does not appear to be calculated for the enforcing of a rigid police on account of the vacancy next the floor.

--Officer of the 6th Infantry, quoted in Johnson, "Cantonment Missouri, 126.

1826:

[To] the same expression, different readings will be given, however correctly and precisely they may be worded. To obviate all this and to insure exact uniformity it is necessary that correct drawings of both bunks and arms racks, exhibiting their forms, position with relation to the chamber, mode of numbering, etc., be furnished to each post.

--Croghan, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 12.

1829:

Fort Wood, Louisiana--The form of the bunks is not perhaps in conformity with that prescribed by regulation, and is certainly not suited to this locality and climate, which would cause use to separate rather than crowd sleepers together. The widest bunks that I have seen hitherto are less than three feet wide, but these are at least five feet and of three tiers in height, and each tier calculated to lodge three instead of two persons, as usual.

--Prucha, Army Life, 44.

1831:

Fort Howard, Wisconsin--Bunks and arm racks. Niether were ever in conformity with regulation, and they are now after 8 or 10 years' service (as may be supposed) crazy things indeed.

--Ibid., 45.

1838:

Fort Winnebago, Wisconsin--Bunks in bad condition and irreparable. The very circumstance which induced their being built as they are, with timber far beyond the usual size, has contributed to their present craziness, for although size may give strength, it at the same time affords, as in this instance, greater surface for the growth of this pest of the country--the bed bugs, which by compelling an almost constant overhauling of both bunk and furniture necessarily hastens the destruction of both.

--Ibid., 46.

Fort Brady, Michigan--The bunks are defective in this, that the lower tier, being on the floor itself, must of course remain damp for some time after the chambers have been washed out.

--Ibid.

1840:

The quarters for the men ought, likewise, to be built of durable materials, and be permanently furnished with single iron bedsteads, in lieu of the double and treble wooden bunks now in use. This change, for obvious reasons, should be introduced into all the barracks in the United States

--ARSecWar 1840, 19-20.

1842:

Fort Crawford, Wisconsin--Bunks and arm racks. Both were so well made and of such durable materials under the searching eye of Brigadier General [Zachary] Taylor when the barracks were being built [1829] that they are very nearly as good and serviceable as they were in the first instance, when I reported them to be in exact conformity with regulation. Complaints are made of their bulkiness and the difficulty of taking them apart as often as could be wished to rid them of the bugs which are frequently very troublesome, but this inconvenience must remain and without remedy, so long as we have wooden bunks, for they can not be made more portable and answer at the same time for the accommodation of four men each.

--Ibid., 48.

1843:

Madison Barracks, New York--The bunks are all old and not of the same pattern throughout; some have the rack or stand attached, others are without them, the arms being placed in a rack made apart and fastened to the wall. Though old and a little crazy, they may be made to answer for some years to come. The chief objection to an old bunk is that when once infected by bugs, it can not be rid of them without great inconvenience and trouble, for if it be taken down with a view to a thorough examination, the chances are that it can not be put together again.

--Ibid., 50.

1844:

I cannot omit the opportunity to recommend to Congress to authorize the substitution of the single iron for the double wooden bedstead . . . [which] would add to the comfort, health, and cleanliness of the soldier

--ARSecWar 1844, 115.

Fort Towson, Oklahoma--There are but few bunks at the post, and such as there are are worth nothing. The men, to avoid the bed bugs, which are in countless numbers, sleep either upon the galleries or the floor of their quarters. Captain [Charles O.] Collins will in the course of the summer furnish all the quarters with new bunks, so constructed as to be easily taken down, an essential quality where they require to be so frequently overhauled. The arms racks are but little better than the bunks and improperly made as well as badly arranged. They too will be attended to by the assistant quartermaster in due season.

--Ibid., 51.

1848:

New York Harbor--A requisition has been made on me for bunks for one Compy. 1st Arty, and another will shortly be made for two more comp'ys soon expected in this harbor. As I have found by long experience that wooden bunks, however made, are not durable, and that they soon become, even with the best police, a harbor for vermin, I take this opportunity to recommend a change, feeling confident that it will lead to economy, & that it will contribute greatly to the comfort of the soldier. This change is, to substitute iron bunks for those of wood. I have had inquiries made as to the probable expense of the former. About $50- is set down as the cost. Once made, they can hardly fail to last many years. Indeed, it would seem that they could not be worn out. As it will be necessary to make some provision for these Comp'ys shortly, I respectfully ask an early reply. Enclosed is a plan of the proposed bunks.

--Henry Whiting to Jesup, Oct. 23, 1848, QMConFile--Bunks, RG92.

1850:

Benicia Arsenal, California--One barrack, with bunks for soldiers, eighty feet long, thirty feet wide. [Of $840,351 spent on lumber from Oregon in fiscal 1850, $5,000 went for lumber for] the manufacture of bunks, office furniture, &c.

--ARQMG 1851, 309-317.

Camp Arbuckle, Oklahoma--The men occupy a long building about twenty-five by two hundred feet, divided into about four rooms, besides the kitchen. They sleep on rude bunks, made of split logs and clapboards, placed two and a half feet from the floor.

--Glisan, Journal of Army Life, 52.

1851:

[In discussing improvements he is making in "the bed," including modifications to keep dirt and gravel from accumulating in the posts and make them easier to clean out,] We are also getting up the Bed in a light Pattern of *Malleable* Iron, which will not be too heavy, which when completed we shall be happy to send you a sample.

--Samuel Whitemarsh of New York to Maj. G. H. Crossman, Mar. 11, 1851, QMConFile--Bed (iron), RG92.

1854:

Musicians' Training Barrack, Governors Island, New York--I found myself in a room with two windows that overlooked the parade ground and one facing inward towards the interior of South Battery. There were six iron double bedsteads in the room and a single bedstead for the corporal in a corner next to a window. The double bedsteads were made so that one-half could be folded up over the other half when not in use. This in a measure relieved during the day the very crowded condtion at night when all the beds were down.

--Meyers, *Ten Years in The Ranks*, 2; cf. Ostrander's 1864 description of the same room below.

On the 10th of October last I addressed a letter to the Hon. Secretary of War, recommending the adoption of single iron bunks for the Army. His endorsement thereon is respectfully furnished for your information, it being as follows:

> The proposed change from double wooden bunks to single iron bunks, is approved and will be carried into effect by supplying the iron bunks to the recruiting depots and to new permanent posts which may be established, and substituting them from time to time

for such wooden bunks as may become unserviceable at existing posts. Jefferson Davis, Secretary of War. [Oct. 23, 1854]

--Adjutant General S. Cooper to Jesup, Nov. 27, 1854, QMConFile--Bed (iron), RG92.

1854-55:

Carlisle Barracks, Pennsylvania--The rooms were large enough not to be crowded; but the bunks were the old-fashioned two-tier kind. Two men slept in each of the lower and upper bunks, and it was uncomfortable.

--Meyers, Ten Years in the Ranks, 36.

1856:

I have received your instructions to report upon the fitness of a portable camp Bedstead, made by F. T. Foster of this city [Philadelphia], for Army purposes.

Mr. Foster has shewn me his Bedstead, which he claims is his own invention. This is a mistake, as I have seen the same article before, in use in Mexico, where they are common.

It is a good and convenient article for an Officer on campaign, or for travellors on the Western plains; being very portable & weighing only about 21 lbs. Its cost is about $3.75/100.

This Bedstead, or portable Cot, is not at all adapted for use of troops in barracks or for general Army purposes.

--Maj. G. H. Crossman to Jesup, Jan. 10, 1858, QMConFile--Bed (iron), RG92.

1858:

Johns Bunk--[A board of officers] are of the opinion that it is superior to any other known to them and recommend its adoption both on account of its lightness, cheapness and durability.

--Report of a Board of Officers . . . March 31, 1858, QMConFile--Bunks, RG92.

Johns Bunk--The Bunk is simple in its structure and will probably answer the purpose, it will if it be properly taken care of by the Troops.

--Col. C. W. Thoms to Jesup, Nov. 1, 1858, QMConFile--Bunks, RG92.

The cost of equipage is also increased by the adoption of the iron bedstead, which is preferred by the troops because it is more easily kept clean than the wooden bunk formerly in use.

--ARQMG 1858, 797.

1864:

The men slept on platforms twelve feet wide, which ran along each side of the long barracks, and accommodated twenty-five men in a row.

--Quoted in Matthews and Wecter, Our Soldiers Speak, 154-55.

Civil War:

Log Huts of winter quarters--In entering a door at the end one would usually observe two bunks across the opposite end, one near the ground (or floor, when there was such a luxury, which was rarely), and the other well up towards the top of the walls. I say, usually. It depended upon circumstances. When two men only occupied the hut there was one bunk. Sometimes when four occupied it there was but one, and that one running lengthwise. There are other exceptions which I need not mention; but the average hut contained two bunks.

The construction of these bunks was varied in Character. Some were built of boards from hardtack boxes; some men improvised a spring-bed of slender saplings, and padded them with a cushion of hay, oak or pine leaves; others obtained coarse grain sacks from an artillery or cavalry camp, or from some wagon train, and by making a hammock-like arrangement of them thus devised to make repose a little sweeter.

--Billings, Hardtack and Coffee, 69-70.

[There was] an unnecessary waste of life in our late war, [caused chiefly by] want of a suitable bed. Frequently there is nothing but some brush, and pieces of board saved from cracker-boxes and barrel-heads between the sleeper, his blanket, and the mud or frozen earth.

--Locke, Three Years in Camp and Hospital, 75.

1864:

Musicians' Training Barrack, Governors Island, New York--I found myself in a room with two windows that overlooked the parade ground, one facing toward the interior of South Battery. There were seven iron double bedsteads in the room, the corporal's being in a corner next to a window.

These double bedsteads were so made that one half could be folded up over the other half when not in use. This, in a measure, relieved during the day the very crowded conditions at night when all the beds were down. . . . . The corporal [who was Ostrander's bunk-mate] showed me how to take down and fold up the iron bedstead and how to unroll and roll the bed, which consisted of a bedsack stuffed with straw, and the blankets.

--Ostrander, Army Boy, 14-15; cf. Meyers account (published 10 years before Ostrander's) of the same room in 1854, above.

1865-66:

Carlisle Barracks, Pennsylvania--The room where I was located was in the second story of the barracks which formed the nothern side of the quadrangle, and contained eight double bunks, each holding four men, that is to say, two in the lower tier and two in the upper.

--McConnell, Five Years a Cavalryman, 12.

[One enlisted man begged that] provision be made for the men to sleep singly and alone and not keep up the present barbarous and unhealthy system of having the men sleep in couples summer and winter.

--Date uncertain, probably late 1860s, quoted in Foner, United States Soldier Between Wars, 18.

1867:

Fort Harker, Kansas--This [two-man bunks in two tiers], as is well known (aside from any immoral tendency) is a most objectionable form of bed.

--Post surgeon, quoted in Ebel, "Soldier-Doctors," 26.

Fort Cummings, New Mexico--The legs of the bedsteads were in good sized tins containing water to prevent large red ants from crawling upon the beds.

--Parker, Annals of Old Fort Cummings, 11; this possibly refers only to officers' quarters.

Wallen bedstead--[A board of officers] find that it is constructed of wrought iron, and put together in a manner to insure strength and durability. It is 6 ft. 3 in. long in the clear, and 6 ft. 4 in. long outside, 30 inches high, at the head board, and 14 inches high generally, 2 ft 3 in wide in the clear, and it weighs about 80 pounds, which can be furnished at 15¢ per pound, perhaps less. The bunk is made to fold up so as to greatly economize space in the barracks, and a comfortable shiny seat is formed by a piece of board that comes up as it is folded. The knapsacks, belts, muskets, and mosquito bar are supported on the shelf and projections. It contains a box or locker for cleaning utensils & surplus clothing &c, this box can be unlocked and opened on either side.

The Board is of the opinion that where barracks afford sufficient space to allow each man room enough to sleep without others above or below him, that Genl Wallen's bedstead would meet the wants of the service most excellently and they recommend its adoption by the Government, in the most earnest manner, but not to the exclusion of other bedsteads possessing superior merits with which they however have no way of making a comparison, as they are confined in the action to the one presented to them.

--Proceedings of a Board convened for the purpose of examining and reporting upon an iron bedstead invented by Bvt Brig Genl H. D. Wallen, Dec. 1867, QMConFile--Bunks, RG92.

1868:

Jack Bunk--It is the best bunk that I have seen used in the Army. It consists of three pieces--The upper & lower "Jacks" are of wrought iron--the upper one having an iron head-board attached to it. The bottom of substantial slats battened and well screwed together. I consider these bunks exceedingly serviceable and worth more than the price paid for them. [They should be furnished all recuiting depots.]

--Endorsement Feb. 6, 1868, of H. D. Wallen, commanding depot at David's Island, New York: one of many on Lieut. Frederick Fuger to Rufus Ingalls, Nov. 20, 1867, QMConFile--Bunks, RG92; 600 of these had been placed at David's.

1869:

Barrack bunk? and Miller or Jack bunk?--[In compliance with your letter of 12 Oct. I have completed and forwarded a "Pattern Bedstead" in accordance with the sketch recieved. Along with it I send for inspection] a folding Iron Bedstead recently gotten up in this city [Philadelphia], which surpasses, in my opinion, anything of the kind now extant.

--Ingalls to Meigs, Nov. 5, 1869, QMConFile--Bunks, RG92.

In your order for stores for Fort Riley dated July 27, 1869, two hundred fifty (250) Iron Bedsteads two story or double, are called for. There are none to be found in this city [St. Louis] ready made, but I can have them made according to the enclosed plan and specifications for fifteen dollars ($15) each. As the cost is so much greater than for single iron bedsteads, which can be purchased from the Medical Department for fifty cents each, I do not feel authorized to order the two story bedsteads to be made without further authority. Please instruct me what to do in the matter.

--C. W. Thomas to D. H. Rucker, Sept. 10, 1869, QMConFile--Bunks RG92.

1870:

An evil which should be put an end to with the least possible delay, is the use of the double bunk, usually aggravated by placing it in two tiers, and even, as at Fort Buford, in three. These bunks are used in ninety-three, or over one-half, of our posts. It is certainly time that the use of such bunks should be absolutely and imperatively forbidden, and so long as they are allowed to exist in dormitories, so long it is useless to hope that these rooms can be made what they should be. No one acquainted with the first principles of sanitary science will approve of their use. They have long been discontinued in the service of European armies. . . .

The only possible argument in favor of their retention is that they enable more men to be packed in a given space, and that they cost a little less than single bedsteads; neither being worthy of consideration, in view of the evils to which these relics of barbarism give rise, and for which the supposed necessity for their use is now considered as a sufficient apology.

--Billings, Report on Barracks and Hospitals, xvi.

Department of Arizona--The bunks are built of cottonwood saplings, with slats of old packing boxes or stout willow branches. With few exceptions they are arranged in two tiers, like the berths of a ship.

--Ibid., 456.

Post at Baton Rouge, Louisiana--[The barracks are] fitted up with double bunks.

--Ibid., 173.

Fort Bayard, New Mexico--[The barracks are] fitted with double bunks in two tiers.

--Ibid., 241.

Fort Benton, Montana--The bunks are double, and two storied.

--Ibid., 405.

Camp Bowie, Arizona--It has no other furniture than the rough bunks constructed of poles, cut in the ravines near the post.

--Ibid., 471.

Fort Brady, Michigan--In addition to the other defects the men are supplied with double bunks 4-1/2 by 6-1/2 feet, two tiers high, and designed to accommodate four men each. These occupy so much of the interior that the men have but little space in which to perform their ordinary duties and have comfortable places to rest.

--Ibid., 128.

Fort Bridger, Wyoming--The bunks are arranged in two tiers.

--Ibid., 361.

Fort Brown, Texas--[The barracks are each] fitted up with a sufficient number of single, two-tier wooden bunks, ranged down both sides of the room.

--Ibid., 208.

Fort Buford, Dakota--The bunks are badly arranged in three tiers one above the other, each bunk holding two men.

--Ibid., 402.

Carlisle Barracks, Pennsylvania--Double wooden bunks, two stories high, accommodating two men each . . . .

--Ibid., 60.

Post at Charleston, South Carolina--The dormitories are fitted up with double bunks, in two tiers.

--Ibid., 141.

Fort Clark, Texas--Bedsteads are arranged in tiers, each 6-3/12 by 2-10/12 feet. There is a gun rack at one end and two shelves at the other, near the wall. These beds are placed at right angles to the walls, or across the barrack, in two rows.

--Ibid., 220.

Camp Colorado, Arizona--Their only furnishings are crudely built bunks raised a foot or more from the ground.

--Ibid., 471.

Camp Crittenden, Arizona--The bunks are well raised and solidly built, each accommodating two men.

--Ibid., 473-74.

Fort Cummings, New Mexico--They are supplied with double bunks.

--Ibid., 239.

Fort D. A. Russell, Wyoming--The beds . . . are arranged in two-story wooden bunks, each story holding two men.

--Ibid., 239.

Fort Dodge, Kansas--The beds . . . are arranged in two-story wooden bunks, each story holding two men.

--Ibid., 302.

Fort Ellis, Montana--The dormitories contain a double tier of bunks . . . .

--Ibid., 407.

Fort Fetterman, Wyoming--They are fitted up with double bunks in two tiers.

--Ibid., 351.

Fort Fred Steele, Wyoming--Double bunks are used . . . .

--Ibid., 358.

Fort Garland, Colorado--Double wooden bunks are furnished with the usual bedding.

--Ibid., 354.

Camp Gaston, California--[One barrack has] thirty-eight double bunks in two tiers . . . . [Another contains] in all forty-eight double bunks in two tiers, with accommodation for ninety-six men.

--Ibid., 449.

Fort Gibson, Oklahoma--There are fourteen double bunks to accommodate 56 men . . . .

Ibid., 268.

Camp Grant, Arizona--The bunks are rudely constructed, but single and well-raised from the ground.

--Ibid., 466.

Fort Gratiot, Michigan--In the main building, the men are furnished with old-fashioned bunks, with two tiers of beds, each to accommodate two men. These bunks are about 4-1/2 feet wide and 6-1/2 feet long and are occupied by four persons, and are placed so closely together as to allow room barely to get between them.

--Ibid., 122.

Fort Griffin, Texas--The beds consist of single wooden bunks.

--Ibid., 195.

Fort Harker, Kansas--The bunks, which are similar in all the dormitories, are double and two-tiered. This, as is well known (aside from any immoral tendency), is a most objectionable form of bed. All barracks should be constructed so as to give a sufficient area of floor to allow a separate bed to each man placed in it.

--Ibid., 249.

Fort Hays, Kansas--The beds are double-tier wooden bunks, two men sleeping together in each tier, four men in each bunk. There is a drawer for each occupant under the lower berth, and an arm-rack and shelf at the foot of the bunk, the whole arrangement being very objectionable.

--Ibid., 306.

Jackson Barracks, Louisiana--The dormitories are fitted up with double bunks in two tiers; but it is believed that the upper tier is generally unoccupied, and no ill effects are known to have arisen from want of air space.

--Ibid., 162.

Fort Jackson, Louisiana--Double bunks in two tiers are used.

--Ibid., 170.

Fort Johnston, North Carolina--Double bunks are arranged in rows on each side of the room, three feet apart, with a passageway in the center of the room, 8-1/2 feet wide.

--Ibid., 92.

Fort Klamath, Oregon--Double wooden bunks in two tiers are used.

--Ibid., 433.

Fort Lapwai, Idaho--[The rooms] each contain seven bunks for the accommodation of 28 men.

--Ibid., 424.

Fort Laramie, Wyoming--The barracks are all furnished with two tiers of movable bunks, constructed of rough white pine lumber, two men occupying each bunk when the companies are at the maximum.

--Ibid., 347.

Post at Little Rock, Arkansas--Each one is supplied with a sufficient number of neatly painted two-storied bunks; the majority of them are single bunks, a few being double.

--Ibid., 274.

Fort Lyon, Colorado--The bunks in two tiers and double, accommodate four men each.

--Ibid., 314.

Fort Macon, North Carolina--The men sleep in wooden bunks each holding four persons.

--Ibid., 88.

Fort Mackinac, Michigan--The dormitories are fitted with two-story double bunks . . . .

--Ibid., 133.

Camp McDermitt, Nevada--The bunks are double in two tiers.

--Ibid., 453.

Fort McHenry, Maryland--[In the barracks inside the fort,] at present wooden two-story bunks are furnished these quarters, and are alike detrimental to morality, cleanliness and comfort; four men sleep in each of these bunks.

--Ibid., 64.

McPherson Barracks, Georgia--Both iron and wooden single bunks, are provided.

--Ibid., 146.

Fort McRae, New Mexico--They are furnished with double bunks, with an interval of 2 feet 10 inches between the beds.

--Ibid., 242.

Camp Mojave, Arizona--Single bunks are used.

--Ibid., 467.

Omaha Barracks, Nebraska--Two tiers of double wooden bunks are used.

--Ibid., 329.

Post at Mobile, Alabama--Bunks are of wood, measure 6 feet by 27 inches and are single.

--Ibid., 160.

Fort Pike, Louisiana--The men sleep in single, two story bunks furnished with . . . mosquito bars.

--Ibid., 167.

Plattsburgh Barracks, New York--Each bunk is arranged for two men.

--Ibid., 53.

Post at Point San Jose, California--The barrack is furnished with a double row of bunks, two tiers high . . . .

--Ibid., 95.

Camp Reynolds, California--They are furnished with double bunks, two tiers high.

--Ibid., 440.

Fort Reynolds, Colorado--Wooden double bunks arranged in tiers are used.

--Ibid., 317.

Fort Rice, North Dakota--The bunks are two tiers high and sufficient in number to accommodate fifty men in each dormitory.

--Ibid., 391

Fort Richardson, Texas--The beds are wooden bunks, 4 feet wide and 6-1/2 feet long, each holding four men, two above and two below.

--Ibid., 183.

Post at San Antonio, Texas--The bunks are of wood, double in two tiers . . . .

--Ibid., 183.

Fort Sanders, Wyoming--Ordinary double wooden bunks in one and two tiers, are used.

--Ibid., 354.

Quarters at Santa Fe, New Mexico--Double bunks are furnished . . . .

--Ibid., 257.

Fort Selden, New Mexico--The bunks are double in two tiers.

--Ibid., 237.

Fort Sill, Oklahoma--In the one building now occupied bunks are in two tiers, each for the accommodation of four persons.

--Ibid., 265.

Fort Stanton, New Mexico--The squad rooms . . . are furnished with double bunks in single tiers.

--Ibid., 248.

Fort Stevens, Oregon--The bunks are wooden, in two tiers.

--Ibid., 431.

Fort Stevenson, Dakota--There are in each dormitory ten new, neatly furnished, two-tier double bunks, capable of accommodating eight men each, or eighty in all.

--Ibid., 398.

Fort Stockton, Texas--The men sleep on . . . wooden bunks, two men each; the bunks are of old lumber, and, having been made by the men, are of rough workmanship.

--Ibid., 225.

Fort Sully, Dakota--The dormitories are fitted with rough wooden double bunks in two tiers.

--Ibid., 389.

Taylor Barracks, Kentucky--The bunks are of wood, each frame making four berths, two above and two below. All cracks, nail-holes, etc., are closed by putty to exclude bugs, but the success is small, the walls, roof, and ceilings of the buildings being full of them.

--Ibid., 139.

Fort Totten, Dakota--The bunks are of wood, painted; each accommodates two men.

--Ibid., 384.

Fort Vancouver, Washington--[The east barrack is] furnished with double bunks.

--Ibid., 421.

Camp Verde, Arizona--The only fixtures or furniture, is a double line of bunks, two tiers high, each 4 feet wide, and accommodating four men.

--Ibid., 469.

Fort Wadsworth, Dakota--Single wooden bunks are used, furnished with the usual bedding.

--Ibid., 378.

Fort Wallace, Kansas--Each dormitory contains forty double bunks in two tiers, intended for eighty men.

--Ibid., 310.

Camp Warner, Oregon--The bunks are double, in two tiers.

--Ibid., 434.

Camp Wright, California--The men's bunks are double, and in two tiers.

--Ibid., 453.

Alcatraz Island, California--[There are two barracks for the troops, both of wood, floored, ceiled, plastered, and whitewashed. In one "the beds" are in four rows, with two aisles between them. In the other 20 single iron bedsteads are arranged in two rows with an aisle between] and overhead a gallery with twelve beds.

--Ibid., 439.

Fort Craig, New Mexico--Single iron bedsteads are used.

--Ibid., 245.

Fort Foote, Maryland--Iron bedsteads, similar to those used in the Hospital Department, are furnished . . . .

--Ibid., 68.

Fort Hamilton, New York--The majority of the enlisted men sleep on bedsteads composed of board slats, an inch thick, supported by iron trestles, and better adapted for the purpose than anything else in use.

--Ibid., 35.

Fort Independence, Massachusetts--The bunks are each composed of two iron trestles, connected by slats; each bunk is intended for one man.

--Ibid., 16.

Jefferson Barracks, Missouri--The men sleep on bedsteads made of iron, with longitudinal wooden slats.

--Ibid., 279.

Fort Jefferson, Florida--The men have iron bedsteads . . . .

--Ibid., 154.

Post at Key West, Florida--The dormitories are furnished with single iron bedsteads for one company, the remainder . . . .

--Ibid., 152.

Madison Barracks, New York--Each man has an iron bedstead, of the hospital pattern, to himself . . . .

--Ibid., 99.

Fort McKavett, Texas--Each man is furnished with an iron bedstead.

--Ibid., 204.

Fort McHenry, Maryland--[In the barracks outside the fort.] In these rooms iron bedsteads are used, which contribute greatly to the comfort of the men and neatness of the barracks.

--Ibid., 64.

McPherson Barracks, Georgia--Both iron and wooden single bunks, are provided.

--Ibid., 146.

Fort Monroe, Virginia--The bunks used in the company quarters are similar to those which were made for the Hospital Department during the war, being iron frames with wooden slats. The bunks are furnished two to three men.

--Ibid., 75.

Fort Niagara, New York--The bunks are iron bedsteads.

--Ibid., 111.

Fort Preble, Maine--The beds are low single bunks, formed of boards on movable iron supports.

--Ibid., 15.

Fort San Carlos de Barrancas, Florida--[The bunks are] combined iron and wooden single bedsteads, furnished with blankets and mosquito bars, and the bedsacks filled with straw.

--Ibid., 156.

Presidio of San Francisco, California--The quarters occupied by these troops are fitted up with iron bedsteads . . . .

--Ibid., 445.

Fort Schuyler, New York--They are fitted up with single bunks, consisting of iron head and foot supports, with a wooden bottom.

--Ibid., 41.

Fort Union, New Mexico--[There are 21] movable iron bunks [in each barrack room.]

--Ibid., 260.

Fort Warren, Massachusetts--The beds are single iron bunks . . . .

--Ibid., 70.

Fort Wayne, Michigan--The quarters occupied by Battery G, Fourth Artillery, are furnished with iron bedsteads.

--Ibid., 115.

Post on Yerba Buena Island, California--They are furnished with iron bedsteads.

--Ibid., 446.

1871:

Many years since it was ordered by the War Department that the wooden bunks, used in barracks, difficult to keep clean and affording harbor for vermin, should be replaced by single iron bunks. The war interfered with the provision of such bunks, very necessary to health and morale of troops, and the work is now in progress. The estimates submitted for the next year contemplate the completion of this work.

The service to which these iron besteads are exposed in barracks is severe, and several patterns heretofore in use have failed in actual service.

Two patterns are now manufactured, which are believed to be well fitted for use. They have been tried at several posts, and thus far always with favorable results. One is made of bar-iron, the other of gas-pipe; both have wooden slats to support the bed, and are easily taken apart for transportation. Both are so arranged that in the daytime they can be piled three tiers high without disturbing the bedding, but when in use at night they are all put upon the floor, and no soldier will be obliged to sleep over his comrade's bed.

--ARQMG 1871, 127.

Miller bunk--Being the inventor of this Bunk I have furnished the QM Department 1600 of the same, and I believe there has never been any repairs required to them since they were made, and are pronounced to be the best article furnished for the purpose intended.

--M. C. Miller to Meigs Oct. 17, 1871, QMConFile--Bunks, RG92.

1872:

Barrack bunk manufactured by Snead--I would state, for the information of the Quartermaster General, that the Bunks delivered under this contract are of good quality and give entire staisfaction.

--James A. Ekin to Quartermaster General, June 11, 1872, QMConFile--Bunks, RG92.

They give each soldier a separate and distinct bed, and conduce both to comfort and health, and are a great improvement upon the rough wooden two-story bunks heretofore in general use at military posts. The contract for the ensuing year has been awarded to the Composite Iron Company, their bunk being the best. The price is $5, which is the same as last year's price for this bunk.

--ARQMG 1872, 142.

Fort Davis, Texas--The troops are now supplied with single iron Bunks, and bedsacks filled with hay and blankets, but their beds are never tidy, or orderly.

--Medical History of Fort Davis, May 1872; probably the Barrack bunk.

Newport Barracks, Kentucky--The last two days of our stay, we were kept shut up in our "quarters"--a big room on the third floor. The room was literally packed with recruits The old "double decker" bunks--four men occupying each bunk--stood thickly along each side of the room.

--Cox, *Five Years in the United States Army*, 12-13.

Composite bunk--[After fiscal 1873 contract awarded, proposing design changes--substituting a new chill in place of the shield on the head and foot trestles, and omitting the four short corner rods in the ends.] The Bunk is equally strong in every respoect and will enable us to make and furnish them without a loss to ourselves and be a savings to the government . . . . [The request was swiftly denied.]

--Irah Chase, Vice President, Composite Iron Works Company, to Meigs, Oct. 7, 1872, and Meigs to Chase, Oct. 10, 1872, QMConFile--Bunks, RG92.

1874:

Coyle bunk--[After the Fiscal 1875 contract had been awarded to Composite, Coyle proposed to furnish his model at a lower price, upon which Meigs said,] I think that the contract has been properly awarded. But this bunk is so much lighter, and . . . so much cheaper, that it deserves a trial to determine its capacity to bear the rough usuage of the Barrack. [Recommended that 200 be purchased for trials; the Secretary of War approved Sept. 14]

--Meigs to Secretary of War, Sept. 9, 1874, and endorsements, QMConFile--Bunks, RG92.

Coyle bunk trials--The points in which information is particularly desired, are: Suitableness for use as Army Bunks; Are they strong enough? Are they as good or better than the bunks made by the Composite Iron Company of New York? What improvements, if any, can be made on them?

--Meigs to L. C. Easton, Sept. 18, 1874, QMConFile-Bunks, RG92.

Coyle bunk--The couplings in the sample exhibited to me were not as stout as they should be; they should be made stronger.

--Meigs to H. B. Coyle, Sept. 18, 1874, QMConFile--Bunks, RG92.

1875:

I am glad to say that the double and two-story wooden bunks are now very nearly abolished, and that the iron bunks now furnished by the Quartermaster's Department are very satisfactory, with the exception of a few, which are two-story in pattern--that is, an iron frame containing two beds, one four or five feet above the other. Under no circcumstances, except for the most temporary emergency, should beds be arranged in this manner. It is connected with deficient air-space, and gives an appearance of room when there is not. Every man should have his sixty square feet of floor space as much as his ration.

--Billings, in Report on Hygiene, xviii.

Coyle bunks, Fort Monroe, Virginia--I consider them to be more suitable for use in the Military Service than the Standard [probably Composite] Bunk. The "Coyle" Bunk is lighter and more easily handled than the Standard Bunk; and when placed one upon the other the space between them is seven (7) inches greater than the Standard Bunk.

--Capt. James H. Piper to Quartermaster General USA, Aug. 24, 1875, QMConFile--Bunks, RG92.

1876:

Coyle bunks, Fort Columbus, New York--I have found them, without exception, the best Army Bunks I have ever seen. They are light, easily handled, can be packed in small compass, and kept absolutely clean without difficulty. In addition, they are far more comfortable for beds and can be used as seats without injury.

--Lieut. C. S. Roberts to Post Adjutant, Jan. 19, 1876, QMConFile--Bunks, RG92.

Coyle bunks--For the following reasons, they are in my opinion, the best bunks now in use. The slats cannot warp and bend out of shape, as those now generally in use do. The side rails keep the bedsack in place and prevent the occupant from sliding off the bedsack. They occupy less space in the squad-rooms. They are strong enough for all practical purposes, and at the same time light and easily handled, and they are easily kept clean.

--Lieut. William Auman to Quartermaster General USA, Jan. 23, 1876, QMConFile--Bunks, RG92.

Coyle bunks--Taken altogether, I consider that they possess every advantage over any bunk yet seen in use in the Army.

--Lieut. J. S. King to Quartermaster General, Jan. 25, 1876, QMConFile--Bunks, RG92.

Coyle bunks, Fort Columbus, New York--[After six months' trial they are] superior to any of the kind heretofore in use for comfort, cleanliness, and economy of space.

--Maj. C. E. A. Crofton to Quartermaster General USA, Feb. 2, 1876, QMConFile--Bunks, RG92.

The Board regards with much favor the "Coyle" Army bunk of the pattern shown in the papers submitted by the Acting Quartermaster-General. It is believed to be entirely suitable for Army use, and better in some respects than the bunks of other kinds heretofore furnished. It is thought, however, that a foot-board the same as the headboard should be added. With this improvement, the Board recommends that it be hereafter supplied the Army, provided it can be purchased as low or lower than the bunk made and furnished by the Compoiste Iron Company, of New York. The agent of the "Coyle" bunk submitted a new pattern of Army bunk which he regards as an improvement over that submitted by the Acting Quartermaster-General, but the Board, while recognizing its greater compactness and portability, does not regard it as favorably. Philadelphia, Pa., March 16, 1876.

--Report of a board of officers reviewing the Coyle army bunk proposed for adoption, QMConFile--Bunks, RG92; also in ARQMG 1876, 225.

The Coyle army iron gas-pipe bunk favorably reported on and admitted to competition in future contracts.

--ARQMG 1876, 129.

Bedding

1852-53:

Fort Leavenworth, Kansas--A bed sack, refilled with prairie hay (Arnold called it prairie feathers) once a month, and a pair of soldier blankets, with overcoat, or anything else one could utilize for a pillow.

--Lowe, Five Years a Dragoon, 76-77.

1854:

Musicians' training barrack, Governors Island, New York--The beds consisted of a bedsack stuffed with straw, which was rolled up in the day time, and a pair of blankets, neatly folded, laid on top. There were no sheets nor pillows for the boys--the corporal was the only one who enjoyed these luxuries, and he had provided them himself. The boys slept on the bedticks and covered themselves with their blankets when it was cold, or used one of the blankets to lie on when it was warm enough, folding up a jacket or some other piece of clothing as a substitute for a pillow.

--Meyers, Ten Years in the Ranks, 2.

1856:

Fort Leavenworth, Kansas--We had to clean our quarters, draw rations, put in a supply of wood, fill our bed sacks, and so on.

--Bandel, Frontier Life in the Army, 102.

1870:

Fort Brown, Texas--The men sleep . . . on bedsacks filled with hay.

--Billings, Report on Barracks and Hospitals, 208.

Carlisle Barracks, Pennsylvania--[The bunks] are furnished with the usual bedsack.

--Ibid., 60.

Fort Clark, Texas--[The] bedsacks are filled with hay.

--Ibid., 220.

Fort D. A. Russell, Wyoming--The beds, of bedsacks filled with hay . . . .

--Ibid., 342.

Fort Fred Steele, Wyoming--[The bunks are furnished] with ordinary bedsacks . . . .

--Ibid., 342.

Fort Garland, Colorado--[The bunks are] furnished with the usual bedding.

--Ibid., 321.

Fort Griffin, Texas--Each man has his own bedsack.

--Ibid., 195.

Fort Hays, Kansas--The bedding consists of bedsacks, washed and filled with fresh straw monthly.

--Ibid., 306.

Fort Independence, Masachusetts--[Each bunk] is furnished with a bedsack filled with hay or straw.

--Ibid., 16.

Jefferson Barracks, Missouri--Their bedding consists of a sack filled with straw . . . .

--Ibid., 279.

Fort Jefferson, Florida--And the bedding is aired at least twice a week.

--Ibid., 154.

Fort Johnston, North Carolina--Double and single bedsacks, filled with straw, are used for bedding.

--Ibid., 92; the bunks were all double, of wood.

Fort Laramie, Wyoming--A few of the men have buffalo robes. The most of them are fain to protect themselves against the rigor of the winter by eking out their scanty covering with their overcoats. They nearly all complain of sleeping cold.

--Ibid., 347.

Fort Macon, North Carolina--The bedding is sufficient and of good quality.

--Ibid., 88.

Post at Mobile, Alabama--The bedding consists of straw mattresses . . . .

--Ibid., 160.

Fort Monroe, Virignia--[The bunks] are covered with bedsacks filled with straw, which is replaced by fresh at least once a month, or oftener, if required.

--Ibid., 75.

Newport Barracks, Kentucky--[The bunks are furnished] with the customary bedding.

--Ibid., 135.

Fort Pike, Louisiana--[Each bunk is] furnished with bedsack.

--Ibid., 167.

Fort Pulaski, Georgia--[The men sleep on] straw mattresses.

--Ibid., 149.

Fort Richardson, Texas--The bedding consists of . . . double bedsacks filled with hay, which is renewed monthly.

--Ibid., 186.

Post at San Antoinio, Texas--[The bunks are furnished with] the usual bedding.

--Ibid., 183.

Fort San Carlos de Barrancas, Florida--And the bedsacks [are] filled with straw.

--Ibid., 156.

Post at Shreveport, Louisiana--[The bunks are furnished] with the usual bedding.

--Ibid., 175.

Fort Stanton, New Mexico--[The men sleep on bunks] containing bedsacks, etc.

--Ibid., 248.

Fort Stockton, Texas--The men sleep on straw ticks.

--Ibid., 225.

Camp Supply, Oklahoma--[The men sleep on] bedsacks filled with hay . . . .

--Ibid., 262.

Taylor Barracks, Kentucky--The bedding of the men is good in quality and abundant in quantity.

--Ibid., 139.

Fort Wadsworth, New York--[The] bedsacks are filled with straw, and changed as often as required to insure cleanliness and health.

--Ibid., 18.

Fort Wadsworth, Dakota--[The bunks are] furnished with the usual bedding.

--Ibid., 378.

Fort Warren, Massachusetts--[The bunks are furnished] with the usual bedding.

--Ibid., 7.

Fort Wingate, New Mexico--[The] bedsacks [are] filled with hay.

--Ibid., 251.

1872:

Fort Davis, Texas--The troops are now supplied with single iron Bunks, and bedsacks filled with hay and blankets, but their beds are never tidy, or orderly.

--Medical History of Fort Davis, May 1872.

1875:

But even with the single bunks the supply of bedding is unsatisfactory. No sheets or pillows are furnished, and the men come into direct contact with the blankets, and use their greatcoats for pillows. The blankets are seldom washed, although they are aired and beaten occasionally. The bedsacks are usually too short, and, as Colonel C. H. Smith . . . remarks, "No amount of too short bed can make a man comfortable."

The recommendation of Dr. Patzki, that wire mattresses, hair-pillows, and sheets be furnished for the troops, is believed to be a good one, the results of which in promoting comfort and content among the men, would be a full equivalent for the money it would cost.

--Report on Hygiene, xviii.

1876:

To meet a want felt in the Army, the Secretary of War, on 18th September 1875, on recommendation of the Acting Quartermaster General, authorized issue of pillow-sacks to the troops. They are made from a very large stock of shelter-tents in store. Their issue has made it necessary to increase the monthly allowance of straw to enlisted men.

--ARQMG 1876, 126.

Blankets

1814:

George Town--[I have] had the delivery of a number of Patent Blankets. I took notice they were very durable, they keep the wet or dampness from the soldier better than the Common Blanket (such as was usually delivered soldiers). I think they answer better than the Indian Blanket. They only want a little more in length.

--Statement of Lieut. W. C. Hobbs, 36th Infantry, July 19, 1814, QMConFile--Blankets, RG92.

1861:

The troops in the field need Blankets. The supply in the country is exhausted. Men spring to arms faster than the mills can manufacture, and large quantities ordered from abroad have not yet arrived.

To relieve pressing necessities, contributions are invited from the surplus stores of families.

The regulation army Blanket weighs five pounds; but good, sound woolen Blankets weighing not leess than four pounds, will be gladly received at the offices of the United States Quartermasters in the principal towns of the loyal States, and applied to the use of the troops.

To such as have Blankets which they can spare, but cannot afford to give, the full market value of suitable Blankets, delivered as above, will be paid.

New York, October 1, 1861. M. C. Meigs,
Quartermaster-General United States.

--Notice published in newspapers, clippings in QMConFile--Blankets, RG92.

Civil War:

Shoddy blankets--[Shoddy is] a villainous compound, the refuse stuff and sweepings of the shop, pounded, rolled, glued, and smoothed to the external form and gloss of cloth, but no more like the genuine article than the shadow is to the substance. [Soldiers issued blankets and clothes of shoddy found them on the first march or during the first storm] scattering to the winds in rags, or dissolving into their primitive elements of dust under the pelting rain.

--Tomes, "The Fortunes of War," 227-28.

1872:

The new Mission Mills blanket--This blanket costs more than the old one, but it is warmer, softer, and will be more durable than any heretofore issued.

--ARQMG 1872, 141-42.

1876:

As the black stripe and letters "U. S.," now used to mark the Army blanket, appear to injure its durability, arrangements have been made to substitute indigo-blue letters and stripes in future contracts.

--ARQMG 1876, 127.

Lighting

Civil War:

For lighting these huts the government furnished candles in limited quantities: at first long ones, which had to be cut for distribution; but later they provided short ones. [Supplies were inconsistent. Only the infantry had "officdial candlesticks" (bayonets).] Quite often the candle was set upon a box in its own drippings.

Whenever candles failed, slush lamps were brought into use. These I have seen made by filling a sardine box with cook-house grease, and inserting a piece of rag in one corner for a wick. The whole was then suspended from the ridgepole of the hut by a wire. This wire came to camp around bales of hay brought to the horses and mules.

--Billings, Hardtack and Coffee, 72-73.

1880:

[The few candles in barracks sufficed only] to render darkness visible.

--Quoted in Foner, United States Soldier Between Wars, 18.

[If the General of the Army wishes to know why the men desert,] he has only to look into our dungeon barracks with the men huddled around the flickering flame of one or two candles. How many evenings would he or any officer spend in such a hole?

--Officer quoted ibid.

1881:

[Now that lamps will be issued,] the men, being able to read without injury to their eyes, spend more time in rational amusements and less time at the sutler store, at the grog-shops, and in the guardhouse.

--ARSecWar 1881, 12-13.

So if "fiat lux" the order is,
And candles are shown the door,
Round the bright kerosene twenty men will be seen,
To one at the trader's store.

--Enlisted man quoted in Foner, United States Soldier Between Wars, 78.

Heating

1843:

Fort Atkinson, Iowa--A requisition for 19 stoves for the hospital and officers' and men's quarters has been forwarded to the quartermaster at St. Louis, which I trust may be immediately met, so that they may be here before the commencement of the winter. Many of the chimneys smoke so badly that no comfort can be expected without stoves, and more than this, a great saving of fuel will be made, for to supply the fire places the daily labor of 25 axe men and five teamsters is requisite during the winter, whereas 10 axe men and 2 teamsters can supply the stoves.

--Prucha, Army Life, 49.

1852-53:

Fort Leavenworth, Kansas--If the Government allowance for wood was not sufficient, we took a company team, made a detail, and hauled more from above the post.

--Lowe, Five Years a Dragoon, 76-77.

1854-55:

Carlisle Barracks, Pennsylvania--The rooms were heated by stoves in which we burned wood. They were comfortably warm during the winter, which I found less severe in Southern Pennsylvania than in New York.

--Meyers, Ten Years in the Ranks, 36.

1855-56:

Fort Pierre, Dakota--Each [portable wooden] house was furnished with two sheet iron stoves for buring wood, and had stove pipes passing through the roof.

Officers and soldiers suffered alike. The miserable huts in which we lived during the winter were unfit for stables. We almost froze in them, and when spring came, the mud roofs leaked like sieves.

I look back upon the winter passed at Fort Pierre as one of great suffering and hardship, by far the worst that I went through during my service.

--Ibid., 72, 106-07.

1856:

Fort Leavenworth, Kansas--We had to clean our quarters, draw rations, put in a supply of wood, fill our bed sacks, and so on.

--Bandel, *Frontier Life in the Army*, 102.

1857:

[We request an appropriation] of twenty thousand dollars to provide stoves for the quarters of officers and soldiers, not exceeding two to each officer above the rank of captain, and one to each captain and subaltern, and four to each company of soldiers above 40° of north latitude, and two to each company below that latitude . . . . There has never been an appropriation for either stoves or . . . though the former are really necessary in the winter-season in all the northern and northwestern portions of our country, and are often necessary in the western and southern portions of it.

--Jesup to Secretary of War, Jan. 26, 1857, reproduced in ARQMG 1876, 269.

Civil War:

Winter huts--The fireplaces were built of brick, of stone, or of wood. [The chimneys were laid up outside the huts.]

--Billings, *Hardtack and Coffee*, 46-47.

1870:

Fort Laramie, Wyoming--[All the barracks are heated by stoves.] The most of [the men] are fain to protect themselves against the rigor of the winter . . . . They nearly all complain of sleeping cold.

--Billings, *Report on Barracks and Hospitals*, 347.

1874:

Fort Robinson, Nebraska--[The delivery of heating stoves was delayed by] criminal neglect.

--Grange, "Fort Robinson," 203.

1875:

The cost of providing stoves for the Army is now large and seems to be increasing from year to year. [Standard patterns and regulations on distribution should be established.]

--Meigs to Secretary of War, April 8, 1875, ARQMG 1876, 269.

[Because of the absence of uniform patterns and of regulations on the use of stoves, and to bring expenses under control, on April 8, 1875 the Quartermaster General proposed to the Secretary] that some general pattern of cooking and heating stoves and ranges should be adopted, and the number to be supplied to officers and troops prescribed by regulations; that the stoves of no particular manufacturor should be adopted, but that general specifications of size and construction, of plain, substantial, and convenient heating and cooking stoves, adapted to the use of bituminous and anthracite coals, and wood, should be drawn up, published, and followed hereafter. [A board of officers assembled in Omaha May 15, to do all that, but had not reported by the end of the fiscal year.]

--M. I. Ludington to Meigs, Aug. 14, 1875, ARQMG 1875, 250-51.

It should be borne in mind that the expense of providing the Army with stoves is very great.

--Meigs to Col. J. C. Davis, May 6, 1875, ARQMG 1876, 267-68.

1880:

Most of the stoves issued to the Army are now manufactured at the Rock Island arsenal. Seventy-four were made there during the year; 140 more were ordered in June, which will be delivered during the current fiscal year.

--ARQMG 1880, 322.

Mess Facilities

1813:

[We can supply] a quantity of Camp Kittles at 25 Cts per Lbs & a quantity of Mess pans at 70 Cents per piece [and axes and chains.]

--Proposal of William Romy, 1813, QMConFile--Kitchen Equipment 1813, RG92.

1820:

Cantonment Missouri, Nebraska--[It is already February and still there are not enough tables or shelving to hold] table furniture and fragments of provisions.

--Quoted in Johnson, "Cantonment Missouri," 125.

1830:

Post at Alexandria, Virginia--In the company messroom, I found a range of tables, neatly garnished with clean table clothes and the requisite furniture for dinner. I found a non-com presiding at the end of each table, with an ample turene of excellent turtle soup before him, from which he was helping his mess mates.

--Inspection report of Col. William McRae, quoted in Kummerow and Brown, *Enlisted Barracks at Fort Snelling*, 20.

1844:

Fort Pike, Louisiana--The kitchen and its utensils, the mess room, and mess furniture are in good condition . . . .

--Prucha, Army Life, 67.

New Orleans Barracks, Louisiana--The mess rooms and kitchens are as clean and neat as any one could desire.

--Ibid., 68.

Fort Washita, Oklahoma--The kitchens and mess rooms are in good order, but having dirt floors, they can not be made to look very neatly. One of the companies, G, spreads its table under a shed, which I take for granted will be boarded up before the cold weather sets in.

--Ibid.

1857:

Fort McHenry, Maryland, kitchens in both barracks--No. 1 Cook room . . . has had cook range repaired, new lock on door, plastered and repainted, wants floor [illegible] cook range repaired. No. 2. Cook room . . . cook range repaired, new locks on door, plastered and repainted.

--J. L. Donaldson to Lieut. Col. H. Brooks, July 3, 1857, QMConFile--McHenry, Fort, RG92.

1860:

Recruits bound for their regiments, Governors Island, New York--One morning a few days later we formed on the parade ground, fully equipped with knapsack, haversack, tin cup, tin plate, knife, fork and spoon, a canteen and three days' rations of boiled salt pork and hard bread stowed in our haversacks; but without arms.

--Meyers, Ten Years in the Ranks, 160.

1870:

Fort Laramie, Wyoming--[The kitchens in the men's quarters] all are provided with cooking-stoves, tables, and benches. Most of the companies are in possession of good mess furniture, consisting of delf plates, bowls, and knives and forks.

--Billings, Report on Barracks and Hospitals, 347.

Fort Davis, Texas--B. Co. . . . Kitchen in all respects, in very good condition. C. Co. . . . Kitchen, neat and clean except tables. K. Co. . . . Kitchen--Range not clean, table dirty, shelves in cupboard dirty, Provision boxes and packs for the same dirty.

--Medical History of Fort Davis, Jan. 5, 1870.

Fort Davis, Texas--C. Co. . . . Kitchen clean. Provision boxes also. K. Co. . . . Kitchen, Range dirty. Cupboard in which dishes are kept dirty.

--Ibid., Jan. 7, 1870.

1872:

Fort Davis, Texas--The mess rooms and kitchens are not plastered--have earth floors-and are equally as dirty and untidy as the barracks.

--Ibid., May 1872.

Other Contents of Barracks

1826:

Cantonment Oglethorpe, Georgia--Fire hook and chain . . . $10.00. Fire buckets . . . $25.00.

-- Report of the Quartermaster General upon the Subject of Barracks, Storehouses, Hospitals, &c. (1827), 7.

1833:

Hancock Barracks, Maine--[After a fire destroyed one of the barracks, officers, noncommissioned officers, and enlisted men petitioned Congress for compensation for] a considerable loss of furniture and personal apparel; that this loss was greatly increased by their personal exertions having been principally directed to the preservation of the other buildings, and for which purpose the carpets and blankets belonging to both officers and men were used, and partially or wholly destroyed . . . .

--Report on Claim (op. cit.).

1838:

[The many worn-out hoes, kettles, and other objects carried on the inventory at nearly every post] serve but to lumber up the store rooms.

Prucha, Army Life, 83, 85.

1852-53:

Fort Leavenworth, Kansas--Cook got some barrels and had them sawed in two for bath tubs, which we could use in the dining room between supper and tattoo.

--Lowe, Five Years a Dragoon, 77.

1853:

Fort Leavenworth, Kansas--[The company commander organized a subscription among the officers and men to purchase a library, which was delivered in February. It included a set of] Harpers Classical and Family Libraries [in] a pair of book cases, with hinges closing the edges on one side, and two locks the edges on the other side, held the library of uniform size and binding. When open the title of each book could be read, and when closed no book could move or get out of place; the books were all the same length and breadth, and an excellent collection.

--Ibid., 98-99.

1854:

Musicians' training barrack Governors Island, New York--A wide shelf around the room above the beds provide space for knapsacks, extra shoes, drums, fifes, and other objects, and on hooks under the shelf were hung the overcoats. There was a coal fire burning in the grate. A few wooden benches and a chair for the corporal in charge; this, with a water pail and a tin cup on a shelf behind the door, completed the furniture of the room.

--Meyers, Ten Years in the Ranks, 2-3; cf. Ostrander's description of the same room in 1864, below.

1857:

Fort McHenry, Maryland--[Both barracks] Have had new locks on doors.

--J. L. Donaldson to Lieut. Col. H. Brooks, July 3, 1857, QMConFile--McHenry, Fort, RG92.

Fort Leavenworth, Kansas--So far as books are concerned, the lack of which I feel, as you may well believe, you are mistaken. Here a soldier is not, as in Germany, limited to his knapsack. For instance, I have a large chest full of tools [most of which I made myself, because I am the company armorer], a trunk full of underwear and clothing, and a small chest of miscellaneous matter, such as books, tobacco, and the like. Then, too, I have two knapsacks (quite different from the German knapsacks which, however, no soldier here carries at all) full of soldier clothes and bedding, consisting of two woolen blankets and a buffalo fur. Consequently you will see that, although not all of the soldiers, nor even most of them, have as many chests, boxes, and packages as I have, it requires many wagons to transport a regiment across the prairies . . . .

--Bandel, Frontier Life in the Army, 114.

Civil War:

Many of these huts were deemed incomplete until a sign appeared over the door. Here and there some one would make an attempt at having a door-plate of wood suitably inscribed; but the more common sight was a sign over the entrance bearing such inscriptions, rudely cut or marked with Charcoal, as: "Parker House," "Hole in the War," "Mose Pearson's," "Astor House," "Willard's Hotel," "Five Points," and other titles equally absurd, expressing in this ridiculous way the vagaries of the inmates.

--Billings, Hardtack and Coffee, 47.

[In a winter hut knapsacks or bundles or personal effects were placed at the head of the bunk. Haversacks, canteens, and equipment usually hung on pegs in the walls, but there was no regular place for muskets. Hardtack boxes, the lids on leather hinges, served as "dish closets," and others on legs made tables, around which were homemade three- or four-legged stools. There might be a shelf over the fireplace for "bric-a-brac."] But such a hut as this one I have been describing was rather high-toned. There were many huts without any of these conveniences.

--Ibid., 70-71.

1864:

Musicians' training barracks, Governors Island, New York--A wide shelf for knapsacks, shoes, drums, and other properties ran around the room above the beds, and on hooks under the shelf were hung articles of clothing.

Ostrander, Army Boy, 15.

1866:

New Post on the Upper San Pedro, Arizona--[In the tent of 1st Sergeant David Grew, Company G, 1st Cavalry,] neither did I observe in the half-darkness of the tent, illumined by a solitary tallow candle, a tumbler, a sugar bowl, and some lemons standing on a cracker box near his bed. . . . . I placed my bottle and cigars on Grew's homemade table; he carried a corkscrew of course.

--Spring, John Spring's Arizona, 62.

1870:

While it may be perfectly true that at almost every post the bath-tub should be considered as important an article of equipment as the cooking-stove, it is still no good excuse for lack of bathing facilities that regular bath-tubs and circulating boilers have not been furnished.

--Billings, Report on Barracks and Hospitals, xvii.

Camp Bowie, Arizona--[The barracks have] no other furniture than the rough bunks.

--Ibid., 471.

Camp Crittenden, Arizona.--[Besides bunks, the] only fixtures are wooden arm-racks and benches.

--Ibid., 474.

Fort Foote, Maryland--Over each [bunk] is a shelf for the knapsack of the soldier.

--Ibid., 68.

Fort Independence, Massachusetts--The furniture of these squad rooms is little beside the stove, bunks, and bedding, the clothing, arms and accoutrements of the men.

--Ibid., 16.

Madison Barracks, New York--Each squad-room is thoroughly fitted up with gun racks, lockers for the clothing and effects of the men, tables, chairs, shelves, and clothes-hooks . . . [each] locker and shelf are painted with [the soldier's] name and company number.

--Ibid., 99.

Fort Monroe, Virginia--The men sleep in the main room of the company quarters . . . in which, too, are kept their boxes, extra clothing, apparatus for cleaning arms, accoutrements &c.

--Ibid., 75.

Camp Verde, Arizona--[The] only fixtures or furniture is a double line of bunks . . . .

--Ibid., 469.

Fort Washington, Maryland--[Besides bunks, the barracks are] also fitted with . . . lockers, and gun racks.

--Ibid., 70.

Fort Davis, Texas--There is in all the Quarters a want of system of arranging the boxes. Many of them being placed in the middle of the floor and used to sit on. I would suggest that several benches be provided for each barrack.

--Medical History of Fort Davis, Jan. 7, 1870.

Babcock fire extinguishers--These machines are designed, not as a means of extinguishing large conflagrations, but of preventing them, and, being portable and self-acting, are always available for immediate action.

--ARQMG 1870, 189-90.

1874:

Johnson pump fire extinguisher--Careful experiments in this city having shown that a small hand force-pump, known as Johnson's Hand Force-Pump, is quite as efficient in extinguishing flames as the chemical fire-extinguisher, its use has been adopted, and two hundred and fourteen have been distributed to military posts. They have saved much property.

--ARQMG 1874, 123.

1875:

General Orders No. 56, War Department, Adjutant-General's Office, April 30, 1875, directs the Quartermaster's Department to provide in all permanent barracks a box or locker 24 inches in length, 12 inches in breadth, and 10 inches in height, for each soldier to store his dress uniform and extra clothing; the boxes to be permanent fixtures of the barracks. They are being supplied upon the requisition of the proper officers.

--ARQMG 1875, 197.

I would strongly urge that cheap, strong bathing-tubs, or other means of cleansing the whole body, should be as regular a part of the supply of a post as bedsteads.

--Billings, in Report on Hygiene, x-xi.

1877:

[To improve the life of the soldiers, they should be regularly supplied with volumes of the classics and the best current literature, including newspapers and magazines,] and these publications should be regularly sent to each company in the Army, whether at regular and permanent posts or not.

--ARSecWar 1877, vii.

1878:

Under [the Secretary of War's] instructions to provide chairs for use in barracks by soldiers, who have heretofore been accustomed to sit on benches or boxes or their beds, arrangements have been made to manufacture a sufficient supply for the barracks and posts east of the Rocky Mountains, at the military prision, at a cost of $1 for each chair. To supply the distant posts beyond the Rocky Mountains contracts have been made on the Pacific coast, at $1.66-2/3 each chair.

The chair adopted as a model is a strong, substantial wooden chair, with wooden molded seat. It is easy, durable, and cheap, and will add much to the comfort of troops, and at a very moderate expenditure.

--ARQMG 1878, 262.

1881:

On the subject of bath-rooms there is absolute unaminity. The Regulations say the men must be made to bathe frequently; the doctors say it should be done; the men want to do it; their company officers wish them to do so; the Quartermaster's Department says it is most impor tant, yet we have no bathrooms.
[Anderson, "Army Posts, Barracks, and Quarters," 433-34.]

The reading-rooms established at most of the posts are very popular with enlisted men as well as officers. The average daily attendance upon them is about 4,800.

--ARSecWar 1881, 23.

Guardhouses

1805:

Fort Detroit, Michigan--[A] guard house also will be requisite, of one story, and about 15 feet square. The walls of the guard house should be built of square timber of nine inches thickness.

--Secretary of War Dearborn to Commanding Officer at Detroit, Aug. 5, 1805, quoted in Prucha, Sword of the Republic, 174.

1857:

Fort Randall, Dakota--When my ten days of solitary confinement expired, I commenced the last term of ten days at hard labor the same as before. During those terms I had to sleep on the floor in the large prison room with the other prisoners. I would have preferred to sleep in the cell alone.

--Meyers, Ten Years in the Ranks, 132.

1869:

--Fort Davis, Texas--[The post surgeon has inspected the guardhouse often,] and under his directions disinfectants have been freely and constantly used.

--Medical History of Fort Davis, Nov. 1869.

1870:

Fort McHenry, Maryland--The guard-house is warmed by stoves, ventilation is rather imperfect, and the building is believed to be decidedly unhealthy.

--Billings, Report on Barracks and Hospitals, 65.

Fort Pulaski, Georgia--[The guard house consists of three casemates, warmed by] large stoves and open fireplaces.

--Ibid., 149.

Fort Laramie, Wyoming--[The upper floor houses one room for the men of the guard, another for the officer, plastered and ceiled, with six windows between them.] The larger room contains a rough board bed, where all the members of the guard who are off duty may lie down, a couple of chairs, and a desk. [The upper rooms are warmed by stoves.] The basement room is of rough stones, whitewashed, has one door and a window towards the river, and on the opposite side at the top two small windows for ventilation. A couple of cells are partitioned off in the south side for refractory prisoners.

The prisoners are all kept in the basement room which contains no furniture. There are ten prisoners at present. The basement room is neither warmed nor lighted.

--Ibid., 348.

1872:

Fort Davis, Texas--In accordance with the communication of the Post Surgeon . . . the Guard House was enlarged by adding on a new room 12 x 16. This building is never well policed, always in a very filthy and disgusting condition, although disinfectants are freely issued from the Hospital. They are either wasted or improperly used by reason of it not being the obligation of any one to superintend this matter.

--Medical History of Fort Davis, May 1872.

BES AILABLE

1873-75:

Probably Fort Randall, Dakota--The guard house clock . . . . the guard house broom . . . .

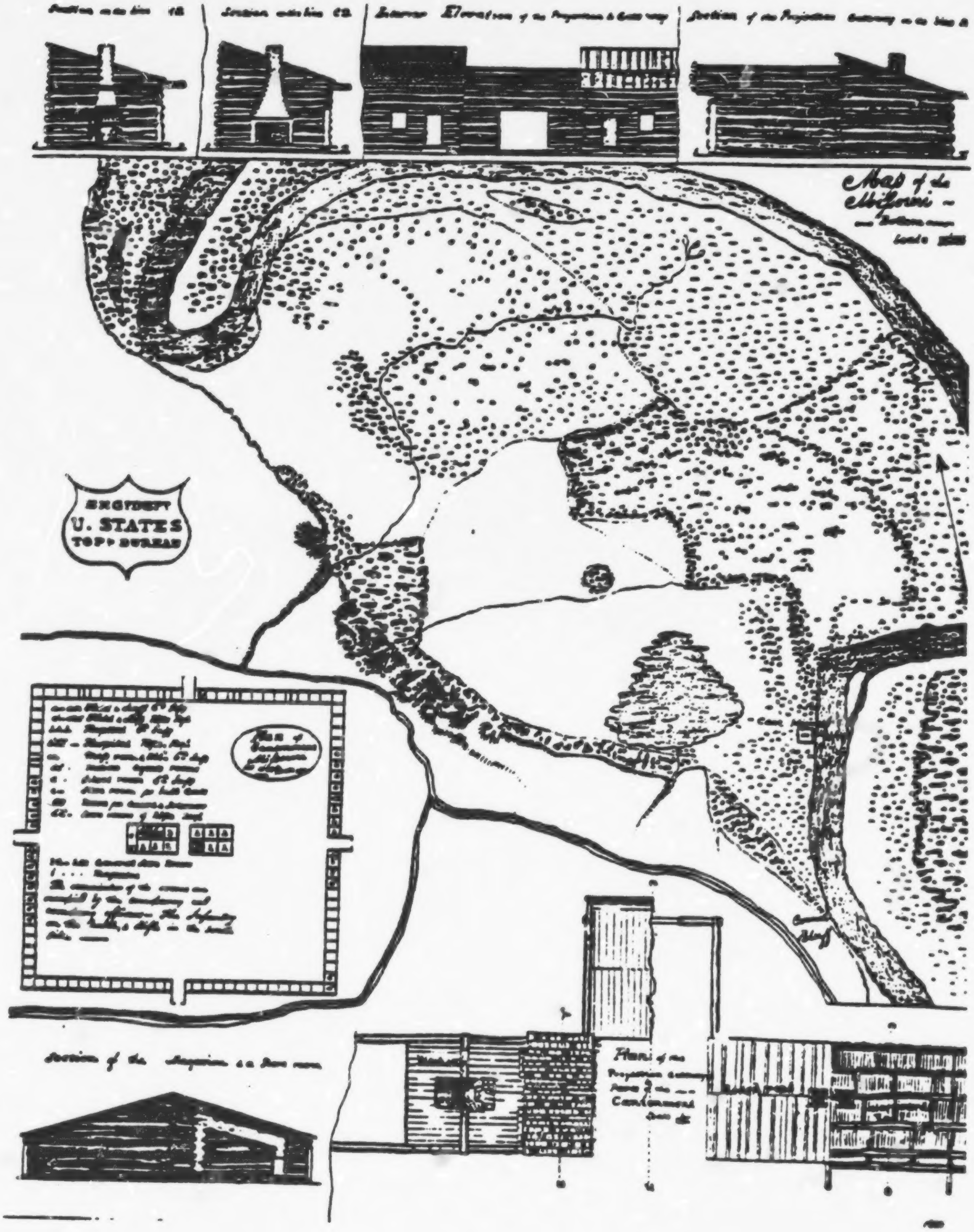
--Cox, *Five Years in the United States Army*, 70-73.

APPENDIX B
BUILDING PLANS

This appendix presents plans for army buildings issued by the War Department (all full size, unless otherwise stated, but some reassembled to fit the pages), in the following order:

1820, Plan of Cantonment Missouri (from reduced-size copy in author's collection of original in National Archives)
1860 (from Barracks Regulations 1860), as follows:
  Barracks
  Guardhouse
1862 (from QMConFile--Barracks, New Jersey, RG92), as follows:
  Plan for New Jersey Barracks
  New Jersey Barracks as Built
1864 (From QMConFile--Barracks, Plans for, RG92), as follows:
  Barracks for One Company
  Barracks Ventilation (note the detail on bunks and shelving)
1864, Hospital Dry Latrine (from QMConFile--Hospitals, accompanying report dated July 18, 1864, RG92)
1872, Suggested Standard Plans for Construction at Temporary Posts in the West (from ARQMG 1872), as follows:
  Barracks
  Guardhouse

1820, Plan of Cantonment Missouri


Map of the Missouri
U. STATES
Bluff

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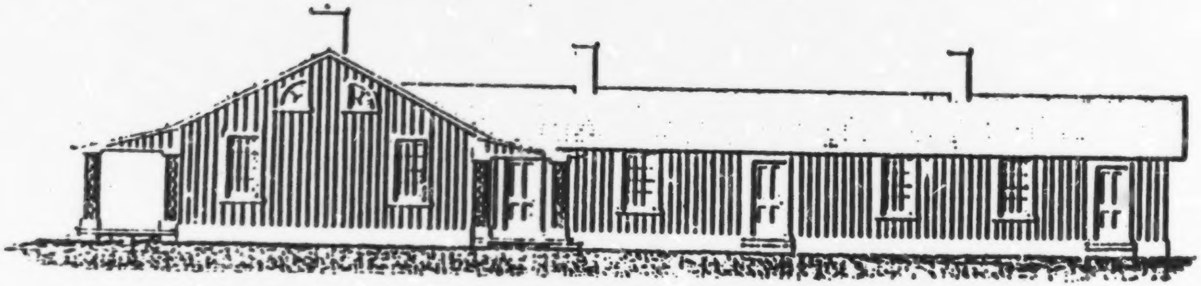
1860 Barracks

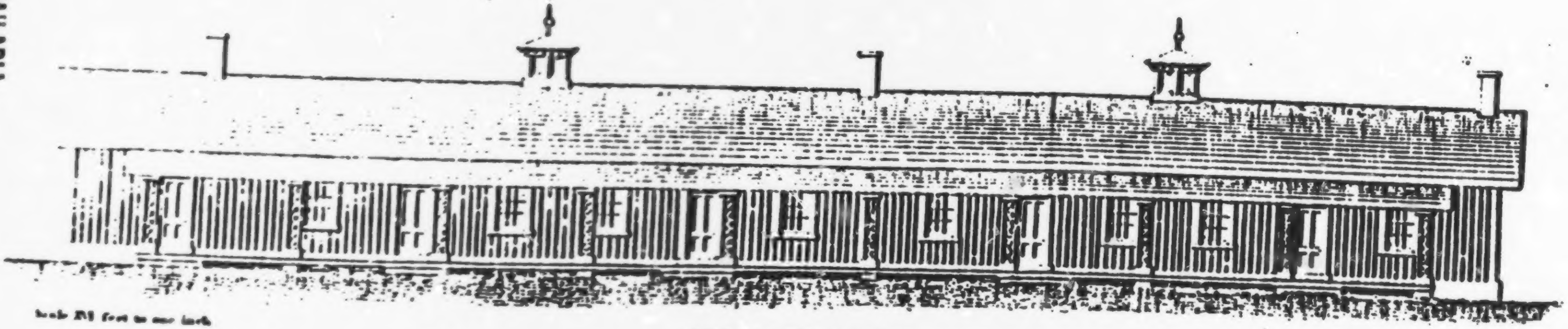
Plate XI

SOLDIER'S QUARTERS FOR ONE COMPANY.

[illegible] sc.



SIDE ELEVATION.



Scale [illegible] feet to one inch

FRONT ELEVATION.

455

455

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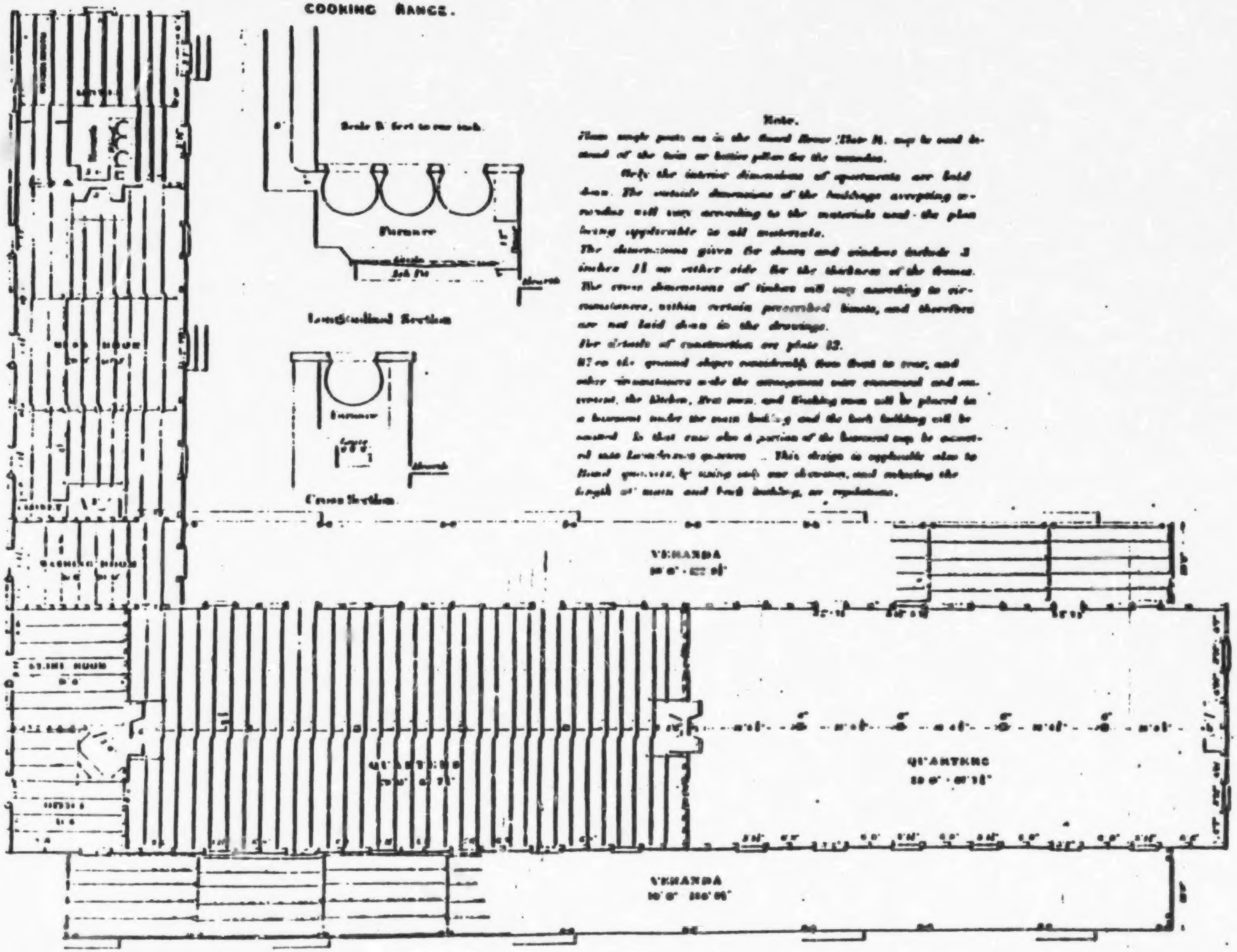
COOKING RANGE.


Scale 5 feet to one inch.
Furnace
Grate
Ash Pit
Hearth
Longitudinal Section
Furnace
Grate
Hearth
Cross Section
WASHING ROOM
VERANDA
QUARTERS
QUARTERS
VERANDA

Note.

Those single posts as in the Guard House (Plate 11) may be used instead of the twin or lattice pillar for the verandas.

Only the interior dimensions of apartments are laid down. The outside dimensions of the buildings excepting verandas will vary according to the materials used - the plan being applicable to all materials.

The dimensions given for doors and windows include 3 inches 1½ on either side for the thickness of the frames.

The cross dimensions of timbers will vary according to circumstances, within certain prescribed limits, and therefore are not laid down in the drawings.

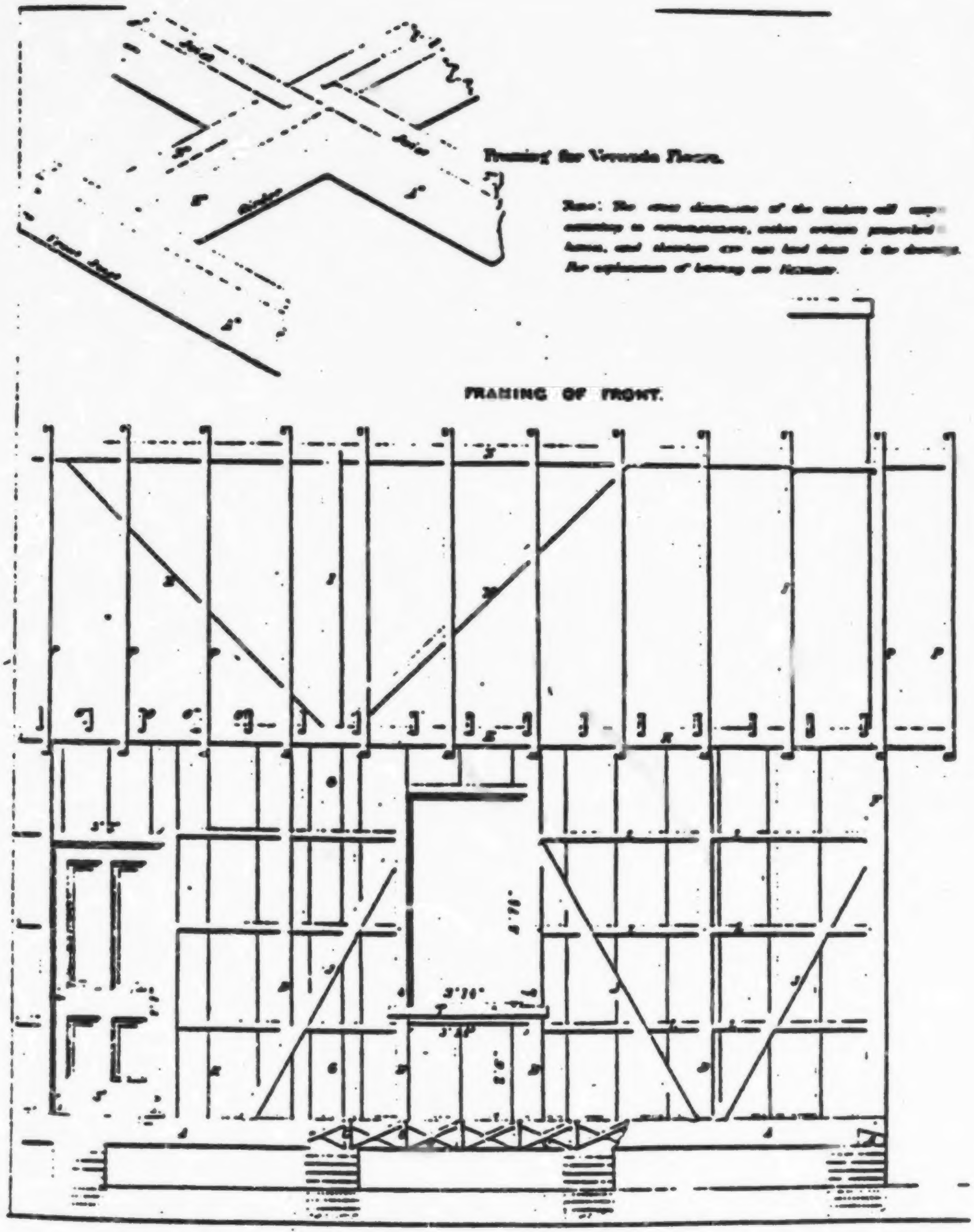
For details of construction see plate 12.

When the ground slopes considerably from front to rear, and other circumstances make the arrangement more convenient and economical, the kitchen, mess room, and washing room will be placed in a basement under the main building and the back building will be omitted. In that case also a portion of the basement may be converted into laundresses quarters. This design is applicable also to Band quarters, by using only one dormitory, and reducing the length of main and back building, as regulations.

PLAN

456

1860, Barracks

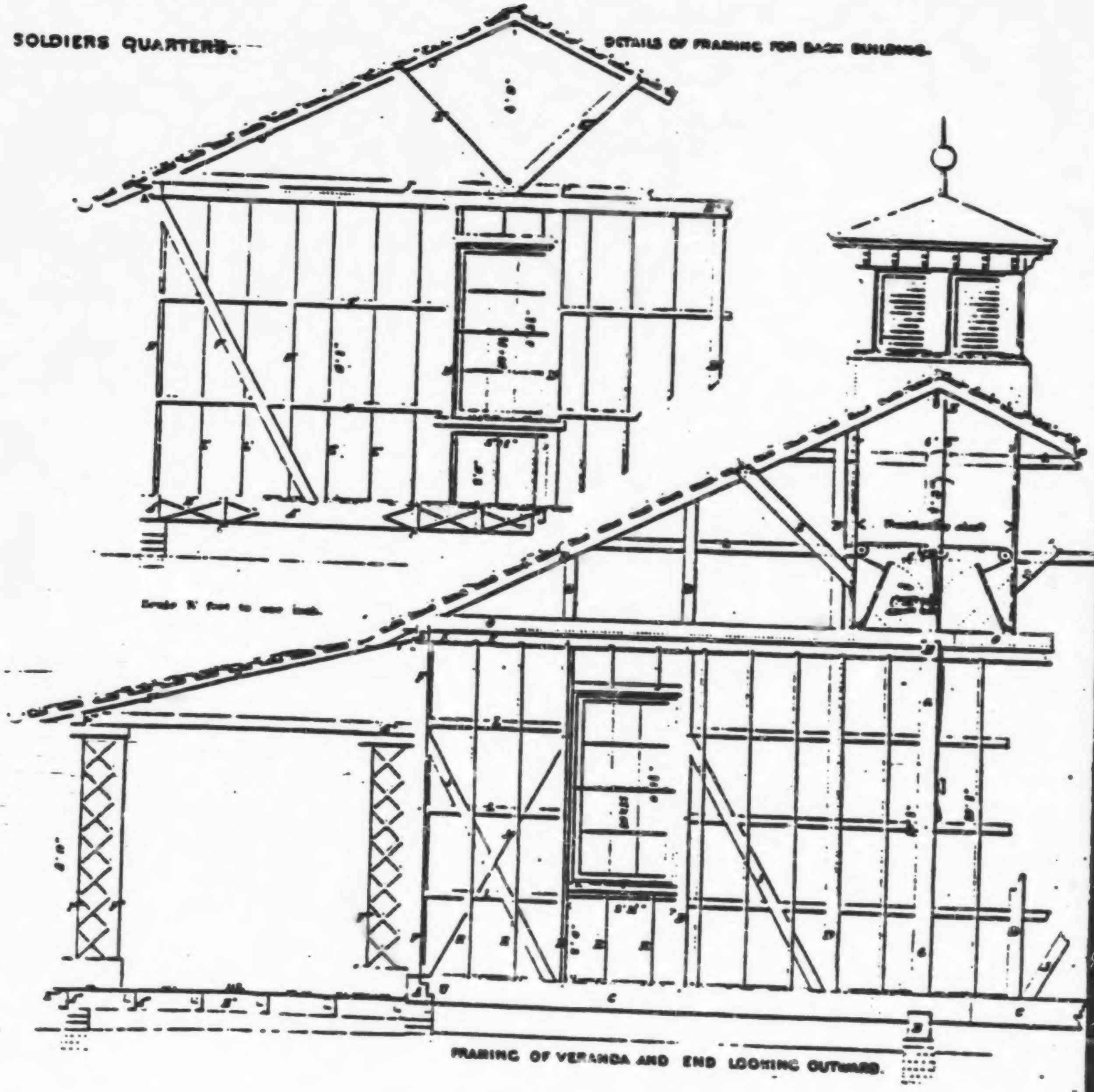

Joist
Joist
Girder
Cross Joist
3'10"

Framing for Veranda Floors.

Note: The [illegible] dimensions of the timbers will vary according to circumstances, unless otherwise prescribed [illegible], and [illegible] are not laid down in the drawings. For explanation of lettering see Schedule.

FRAMING OF FRONT.

1860 Barracks


SOLDIERS QUARTERS.
DETAILS OF FRAMING FOR BACK BUILDING.
Scale ¼" foot to one inch.
FRAMING OF VERANDA AND END LOOKING OUTWARD.

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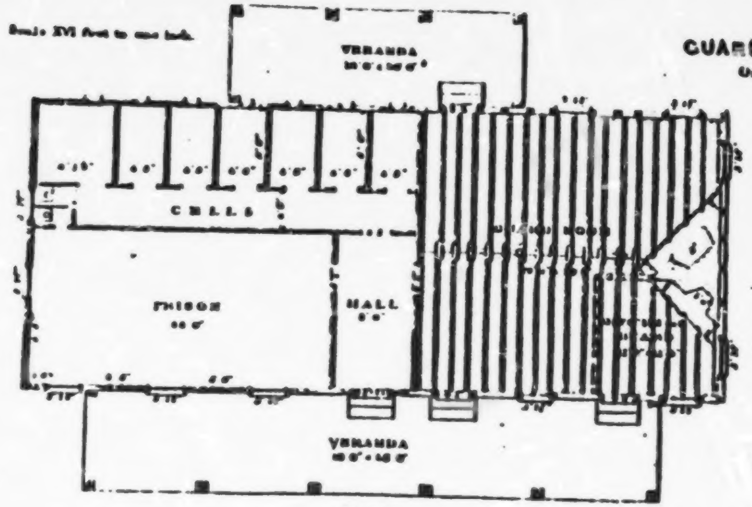
1860, Guardhouse

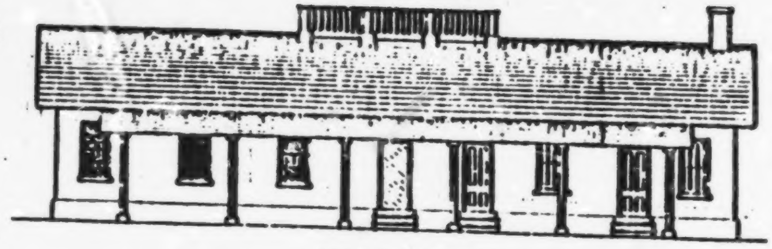
Scale XVI feet to one inch.

GUARD HOUSE.

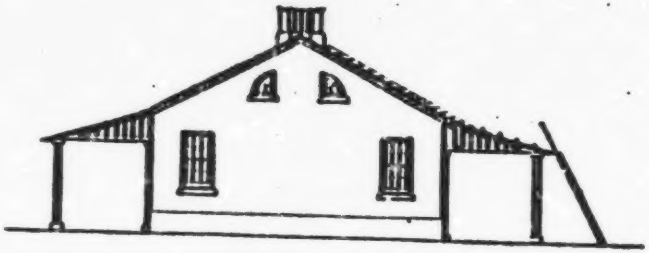
One story.


VERANDA
CELLS
PRISON
HALL
GUARD ROOM
VERANDA

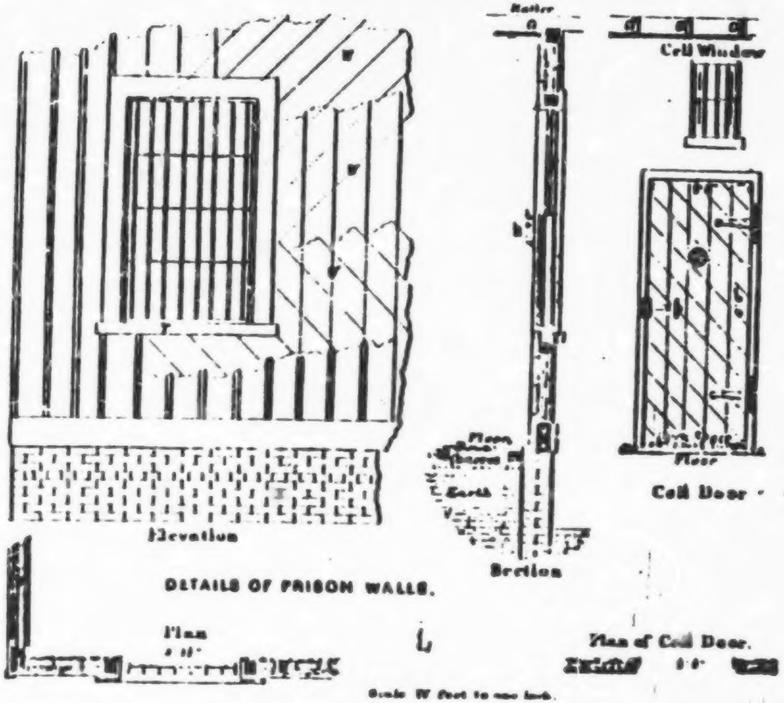
PLAN.



FRONT ELEVATION.



END ELEVATION.


Rafter
Cell Window
Floor
Earth
Floor
Elevation
Section
Cell Door
Plan
Plan of Cell Door.

DETAILS OF PRISON WALLS.

Scale IV feet to one inch.

Note.

Only the interior dimensions of apartments are laid down; the outer dimensions of the building will vary according to the materials used—the plan being applicable to all materials. The number of cells in a given length of prison room and the size of the common prison room will also vary with the materials used for partitions.

The dimensions laid down for doors and windows include 3 inches for the thickness of the frames.

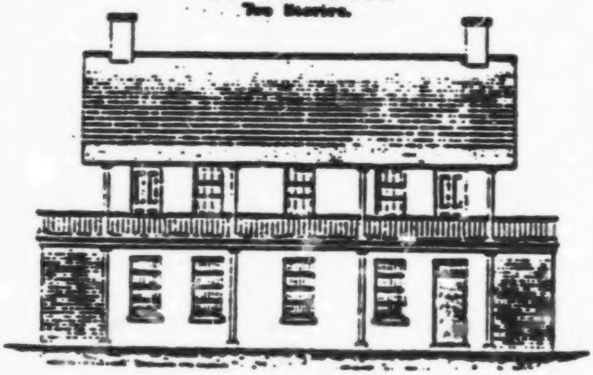
For other information in the manner of construction see plates [illegible] and Barracks.

The roof under the look-out is left partially open for ventilation.

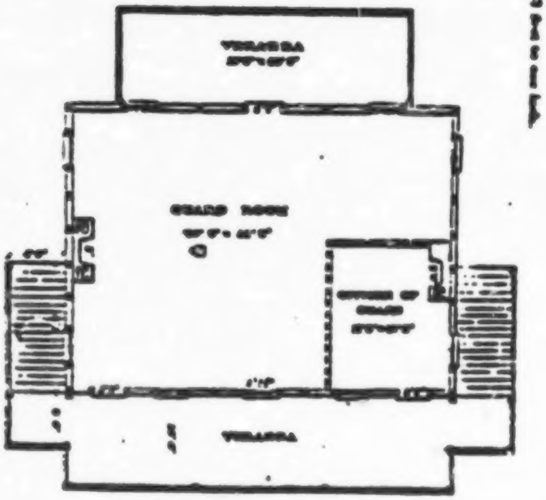
459

1860, Guardhouse

GUARD HOUSE
Two Stories.



ELEVATION.

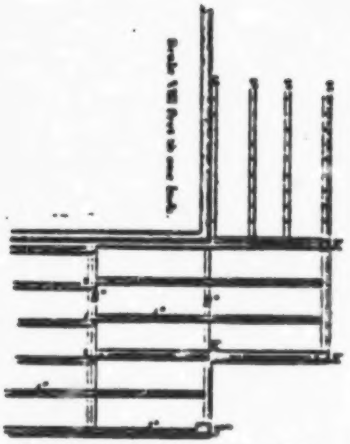


PLAN OF SECOND FLOOR

Plan of 1st Floor same as the Prison part of one story Guard House, (Plate [illegible]) with windows [illegible] in both ends

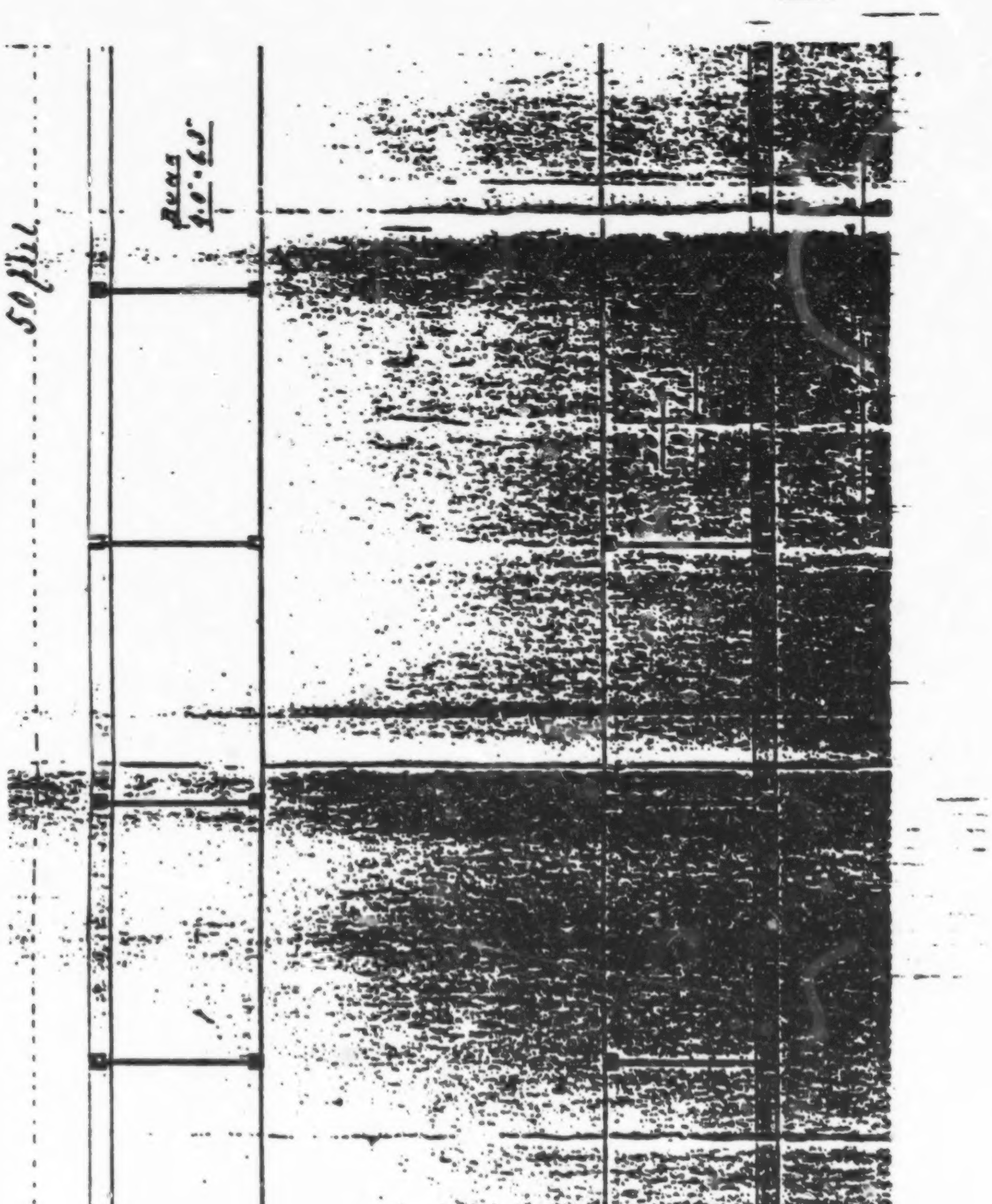
▼ Place to ventilate [illegible]

For other information on the manner of construction see [illegible] [illegible] and the Estimate.

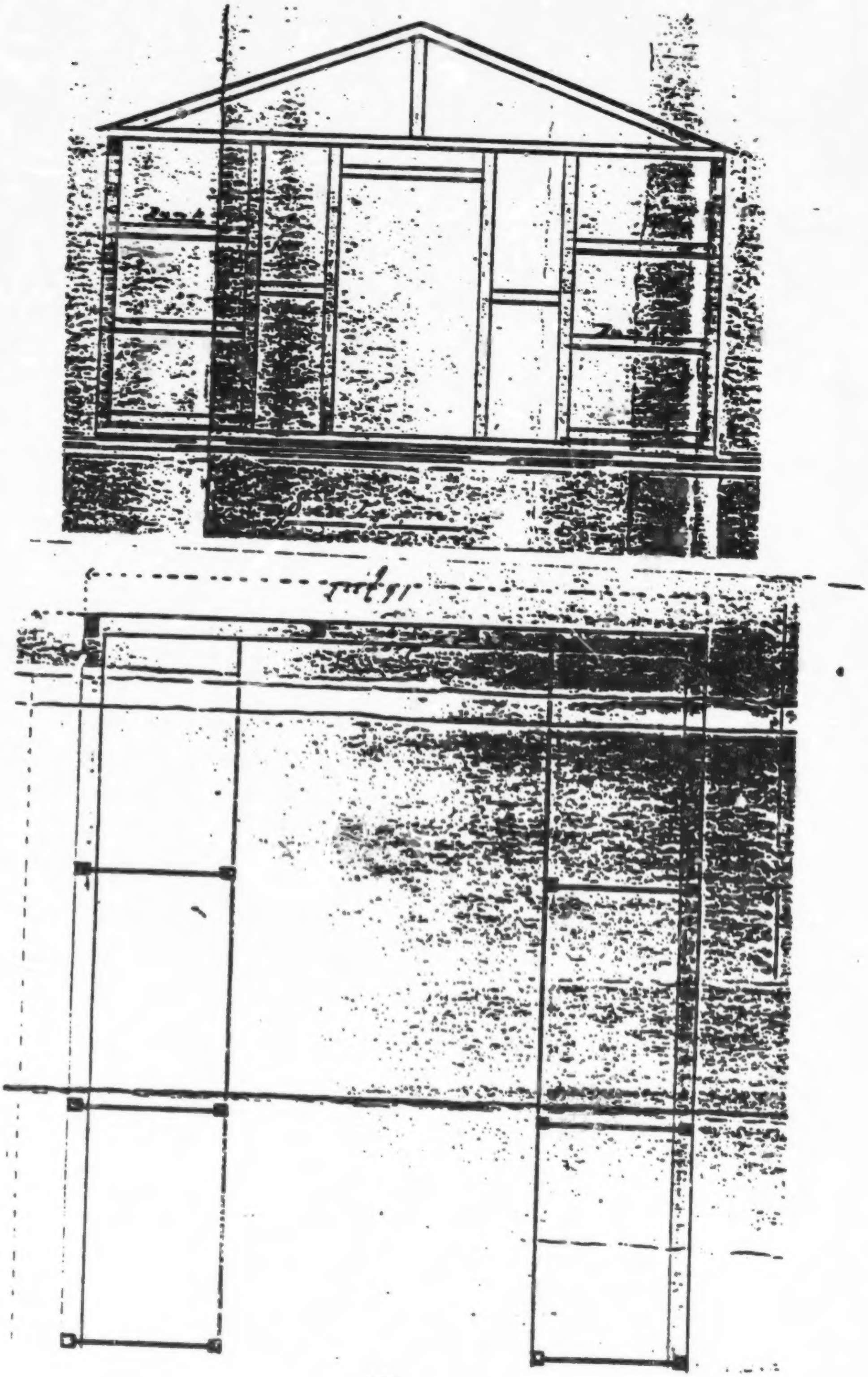


Details of Veranda Floor and Steps.

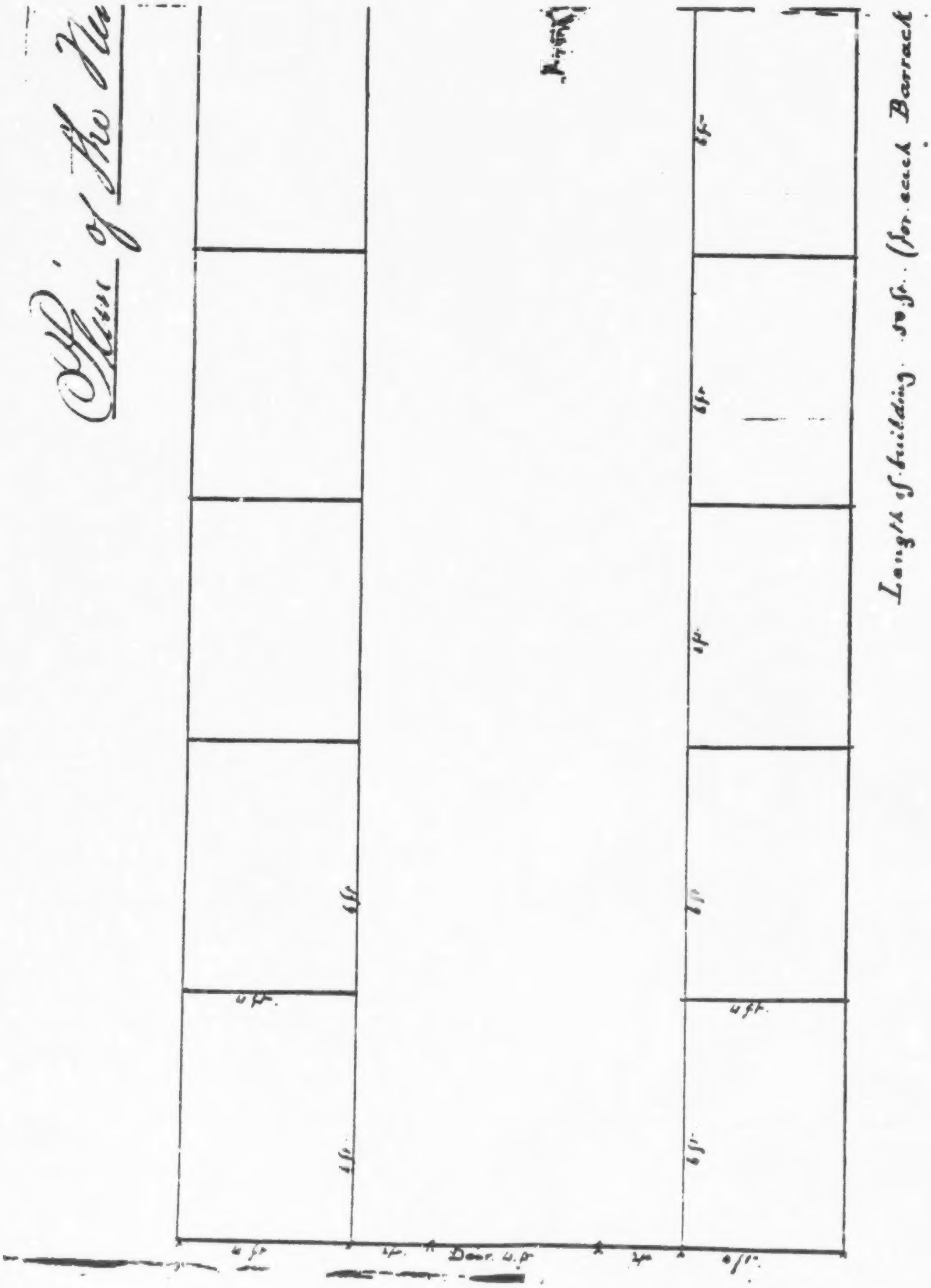
1862, New Jersey Barracks Plan--Front End


50 feet.
Bunks
4.0'·6.5'

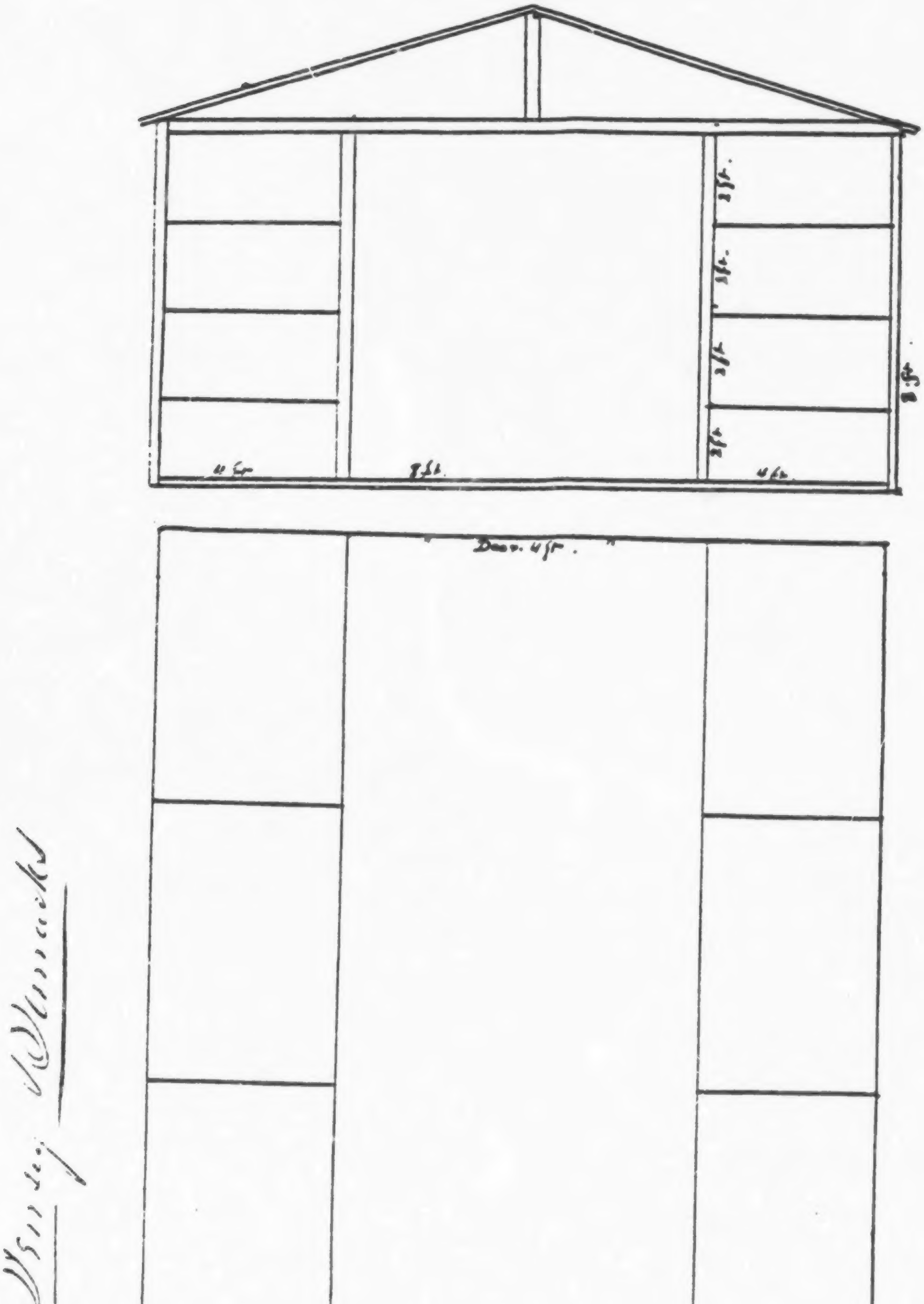
1862, New Jersey Barracks Plan--Rear End and Section


2x4
2x4
16 feet

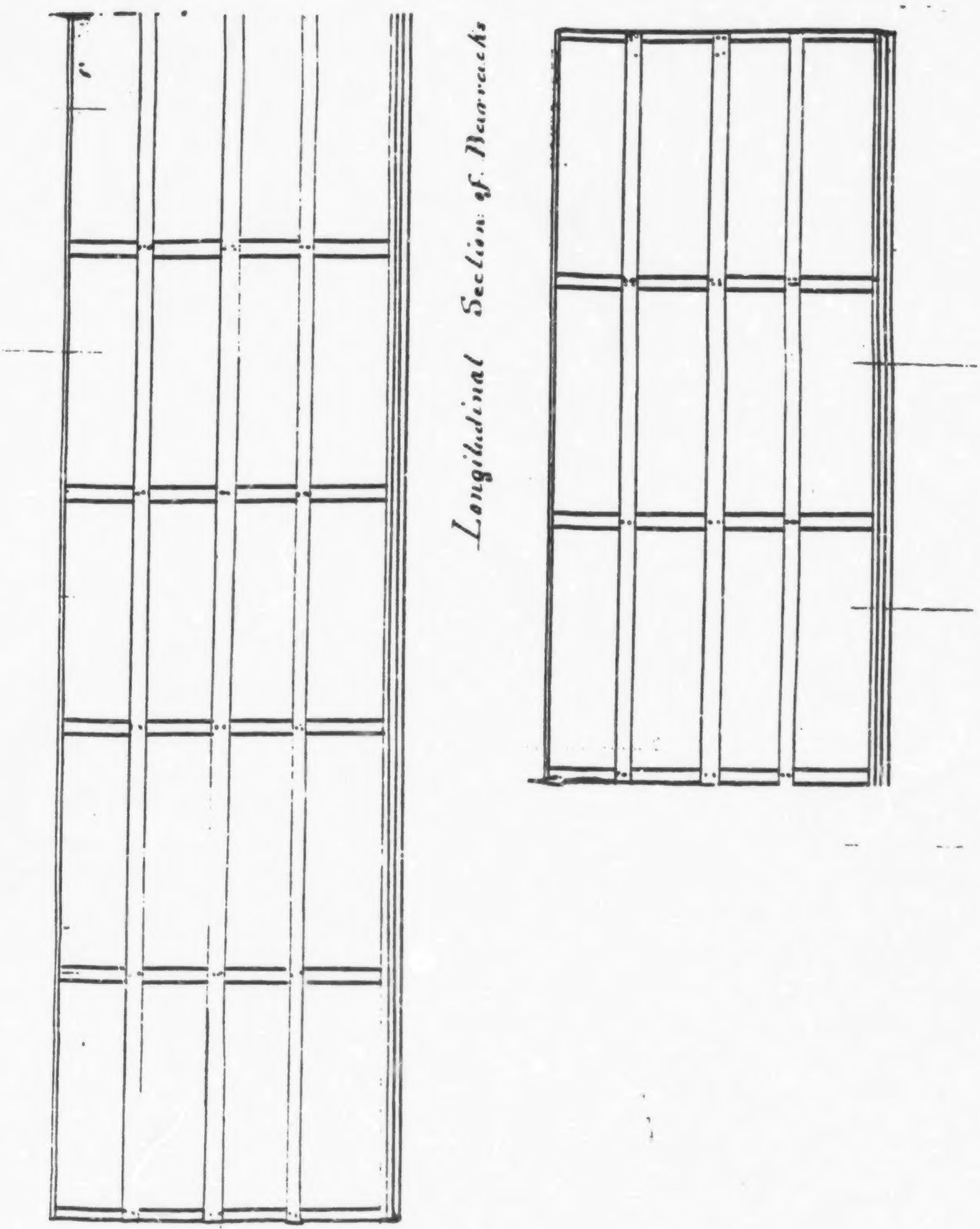
1862, New Jersey Barracks As Built--Front End (note on rear of drawing says "Extreme width 16 feet")


Plan of the Ne
Length of building 50 ft. (For each Barrack.
6 ft
6 ft
6 ft
6 ft
6 ft
6 ft
6 ft
4 ft.
4 ft.
4 ft
1 ft.
Door 4 ft
2 ft
6 ft.

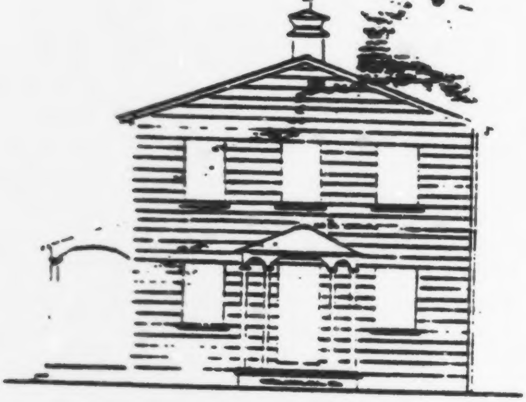
1862, New Jersey Barracks As Built--Rear End and Section


2 ft.
2 ft.
2 ft.
2 ft.
8 ft.
4 ft.
8 ft.
4 ft.
Door. 4 ft.
Jersey Barracks

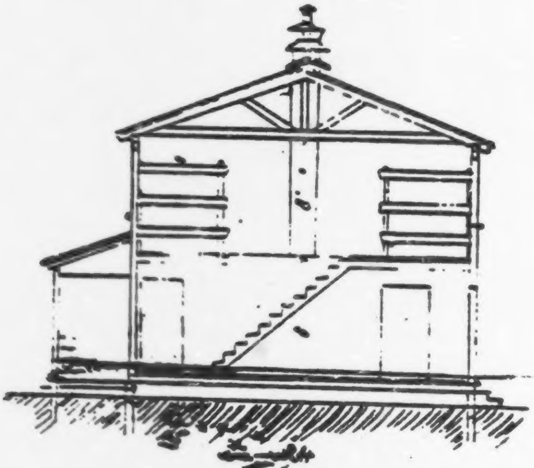
1862, New Jersey Barracks As Built--Front and Rear Sections


Longitudinal Section of Barracks

QUARTERMASTER GENERAL'S OFFICE
WASHINGTON D.C. APRIL 13th 1864.



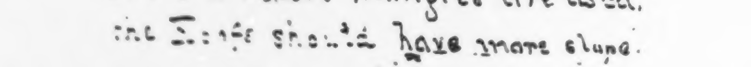
End Elevation



Section

BARRACKS
FOR
ONE COMPANY

Note - Where Shingles are used, the Roofs should have more slope.

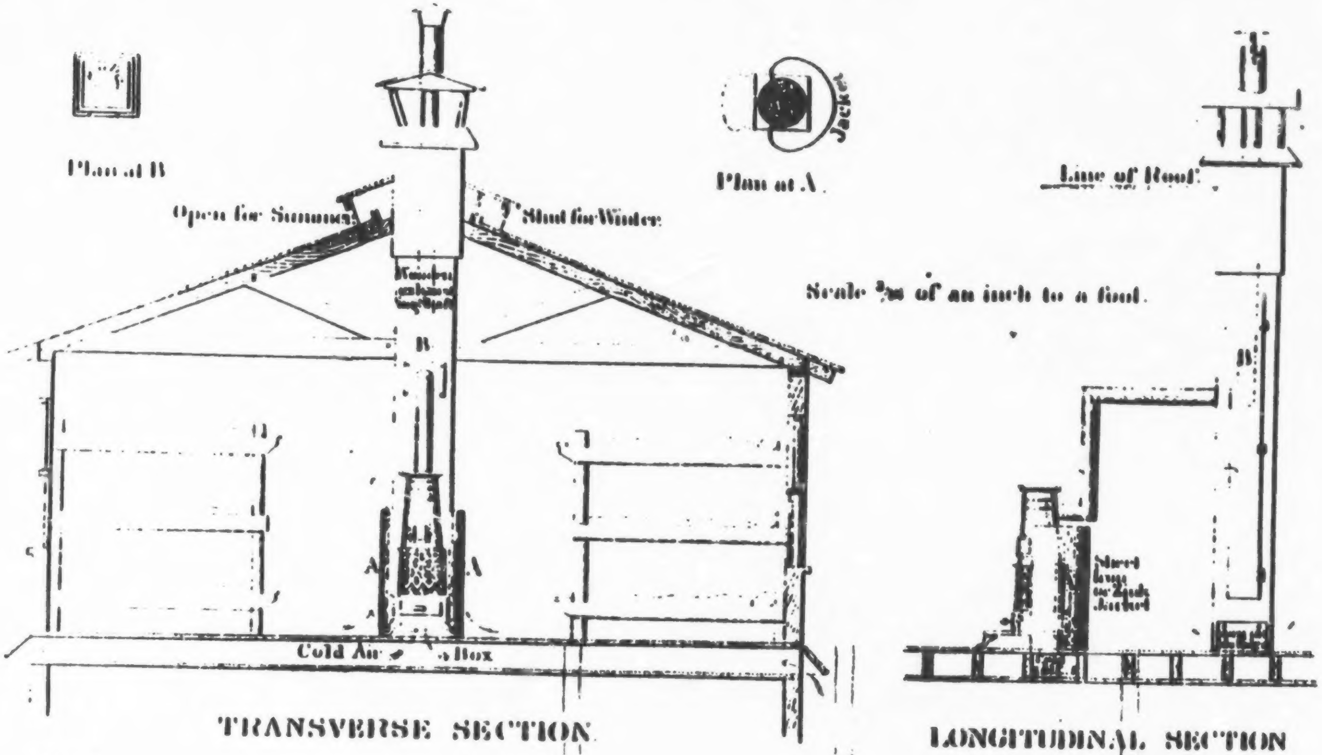


BEST COPY AVAILABLE

1864, Barracks Ventilation

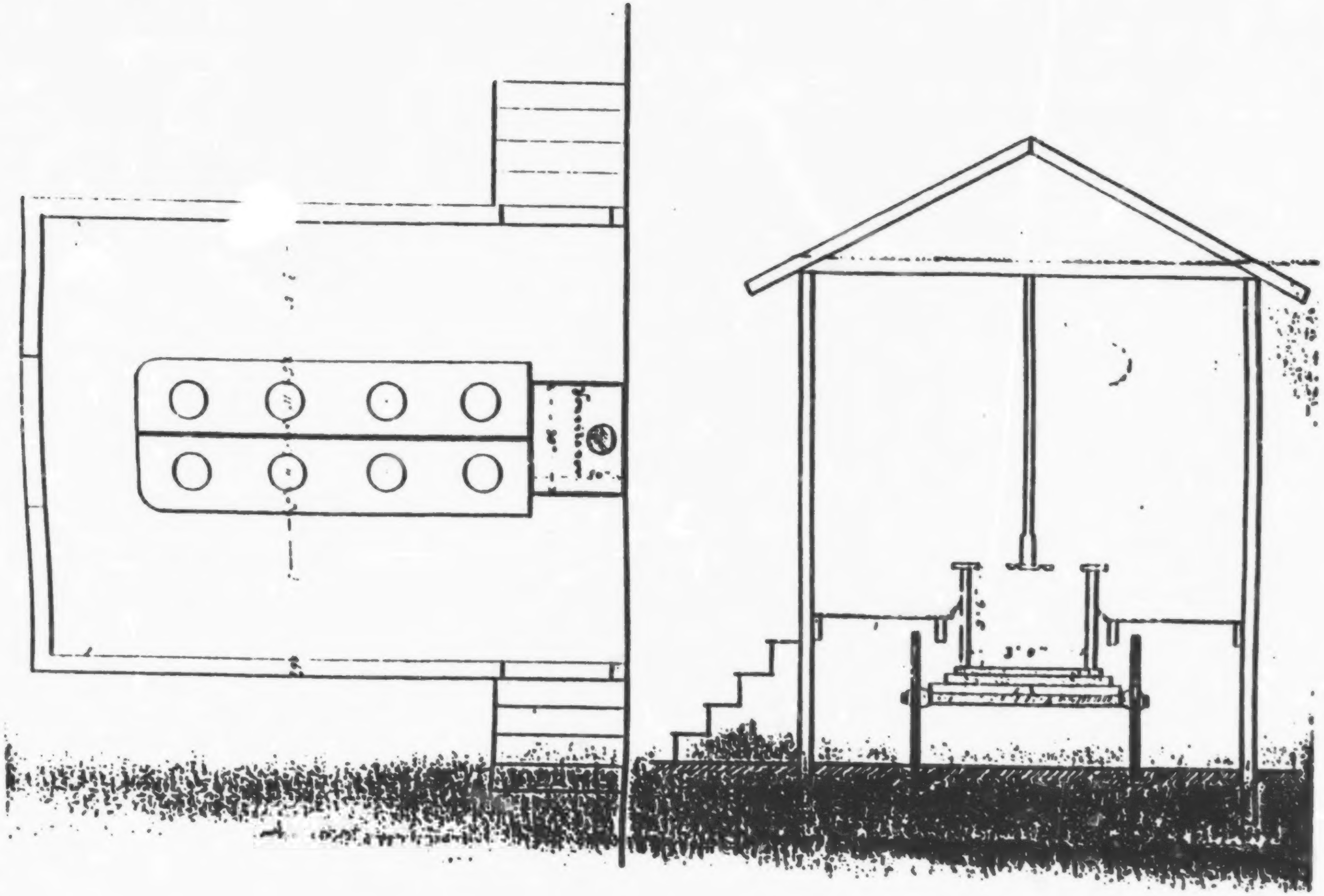
BEST COPY AVAILABLE

Quartermaster General's Office,
Washington DC April 27th 1864


Plan at B
Plan at A.
Jacket
Open for Summer
Shut for Winter
Line of Roof
Scale 3/8 of an inch to a foot.
B
A
A
Cold Air Box
Sheet Iron or Zinc Jacket
TRANSVERSE SECTION.
LONGITUDINAL SECTION

No 5.

MODE OF VENTILATING temporary Barracks and Hospitals, heated by stoves during cold weather, when the usual Summer Ridge Ventilation becomes excessive.

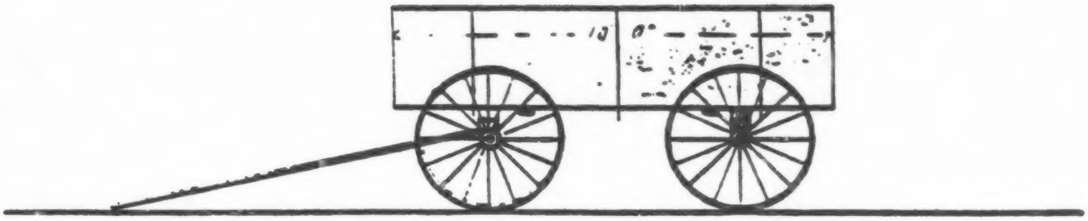


Plan of Dry Latrines

For Officers Hospital, Lookout Mountain Tenn.

1864, Hospital Dry Latrine (note honey wagon in place)

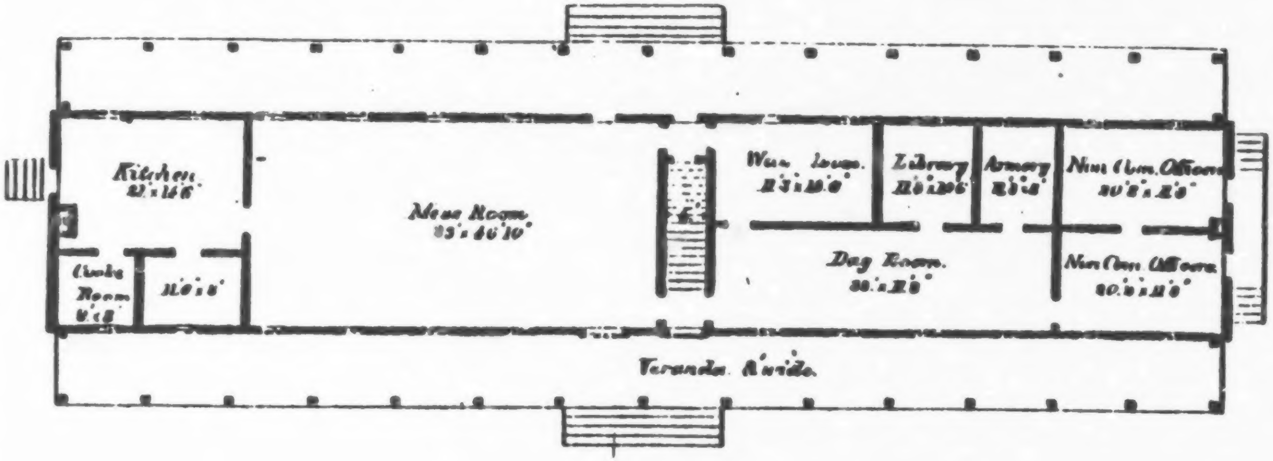
1864, Hospital Dry Latrine--Design of Honey Wagon



BES Y AVAILABLE

No. 1.

COMPANY QUARTERS.

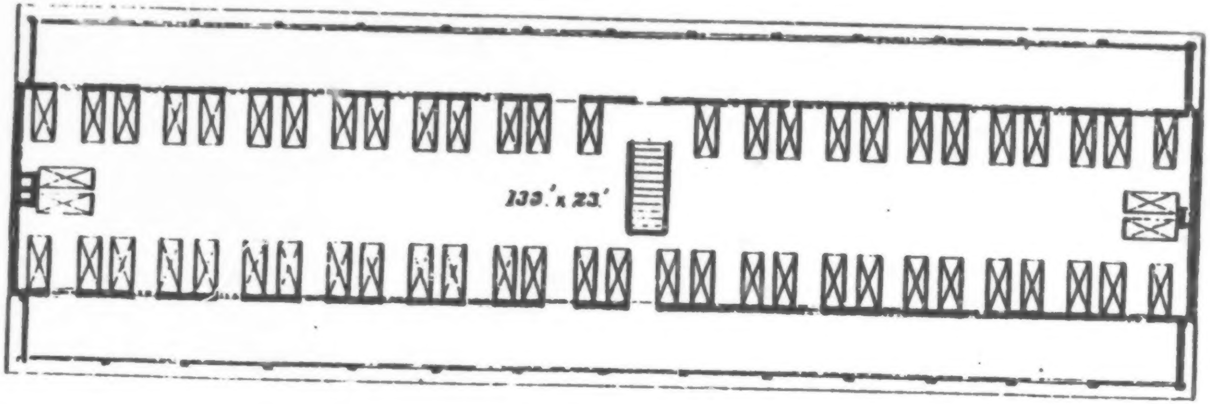

Kitchen
22' x 14'6"
Mess Room.
83' x 46'10"
Cooks Room 9' x 8'
11'0" x 8'
Wash Room.
23' x 10'0"
Library
11'0" x 10'6"
Armory
11'0" x 8'
Non Com. Officers
20'8" x 11'0"
Day Room.
30' x 22'0"
Non Com. Officers
20'0" x 11'0"
Veranda 8' wide.

Plan of 1st Story.

Scale 20 feet to 1 inch.

No. 2.

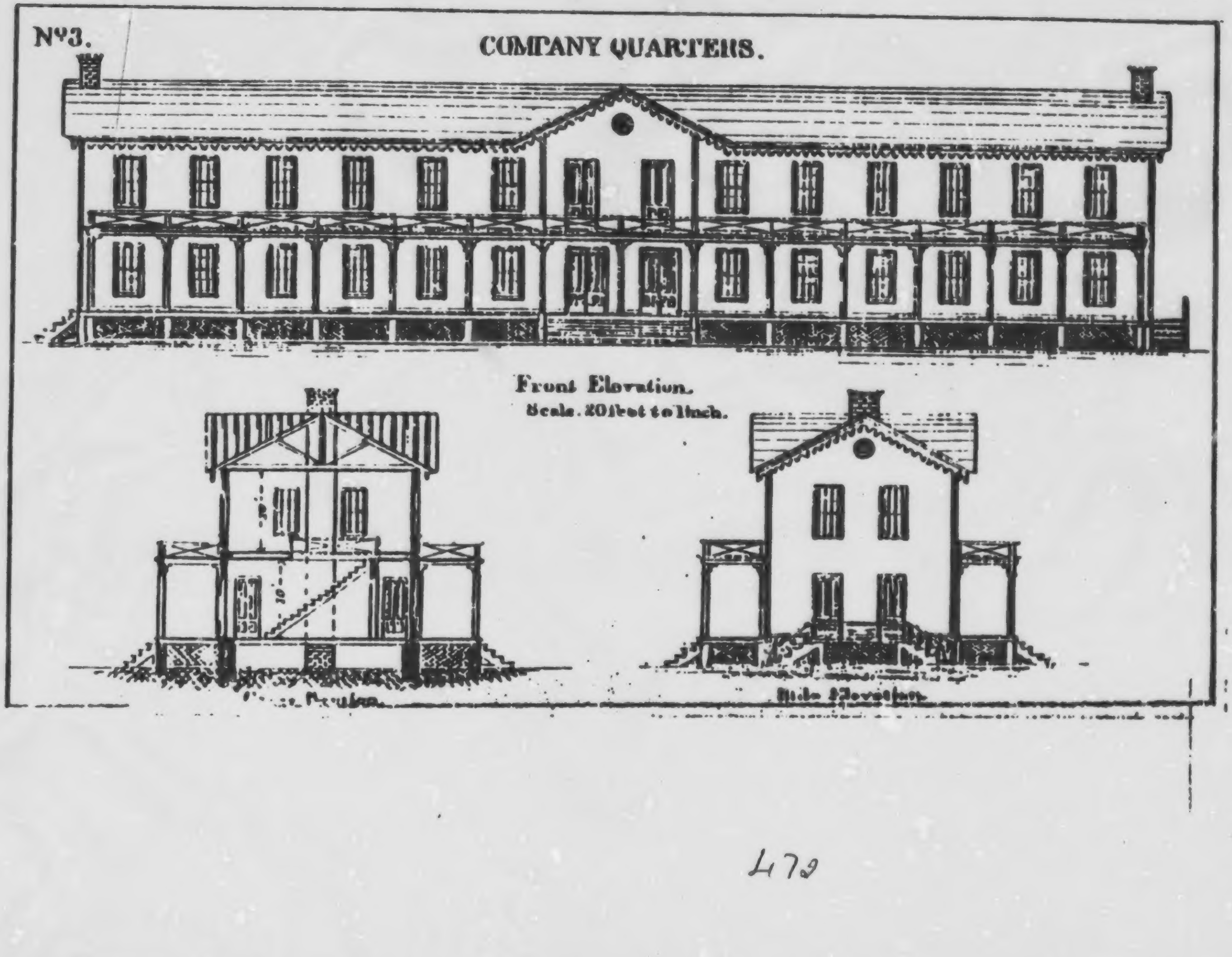
COMPANY QUARTERS.



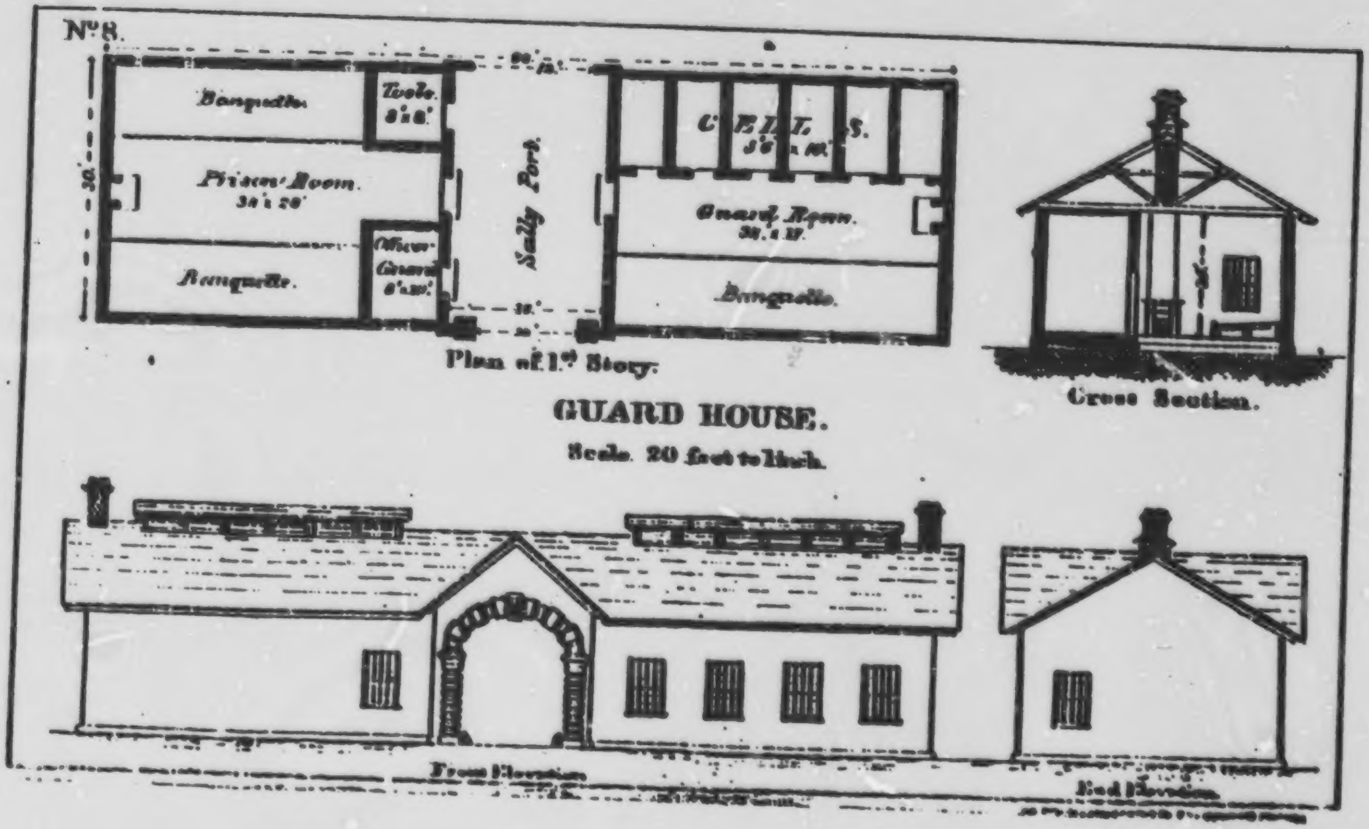
Plan of 2d Story.

Scale 20 feet to 1 inch

471


No 3.
COMPANY QUARTERS.
Front Elevation.
Scale. 20 feet to 1 inch.
Cross Section
Side Elevation

1872, Guardhouse


No 8.
Banquette.
Tools 8'x8'.
Prison Room. 34'x20'.
Officer Guard 8'x20'.
Banquette.
Sally Port.
CELLS.
Guard Room. 34'x17'.
Banquette.
Plan of 1st Story.
Cross Section.
GUARD HOUSE.
Scale. 20 feet to inch.
Front Elevation.
End Elevation.

APPENDIX C

FIREPLACES AND STOVES

This appendix includes the following, in order:

Comments on the construction of fireplaces and chimneys, with plate (from 1860 building regulations 480 and plate III)

1875, Specifications and Supply Table for Army Stoves and Ranges (ARQMG 1876; drawings are from the 1882 republication, and were taken from the Fort Laramie "Historic Structure Report")

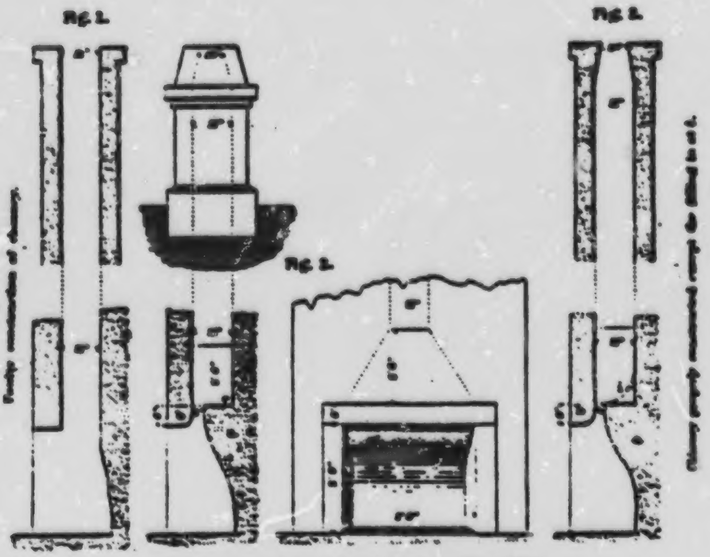
1876, Specifications for Furniture for the Cooking Ranges (from Specifications for Means of Transportation . . . (1882), 111-14)

1860

CONSTRUCTION OF FIREPLACES AND CHIMNEYS, PLATE III.

The *principle* in building chimneys to draw well is to contract both the throat and the top of the flue. The first is effected by inclining the back of the fireplace forward, as at (a) figures 2 and 3, plate III, so as to give the throat about 4 inches from front to back. The area of the throat should not be greater than that of the body of the flue: thus, for a flue 12 x 12=144 square inches, the throat should not be greater than 4 x 36=144 square inches. As for the top of the chimney, it should, for exposed and windy situations, be about one third less than the size of the flue: that is, for a flue 12 x 12=144 square inches, the top should be contracted to 96 square inches, about 9¾ x 9¾; but in ordinary situations it is sufficient to make the flue two inches less in diameter immediately at the top than in the body. Besides these conditions, the offset from the throat to the back of the flue should be six inches above the arch or opening of the fireplace, and square, as at (c) in figure 2, not filled in or sloping as at (i) in figure 3. The inner corner of the arch or breast piece should be rounded, as at (b) in figures 2 and 3, not square as in figure 1.

The best flues are round or oval, like that made with the oval mold in Plate I for pisé work. For stone or brick chimneys, the masonry is built around a tin mold 1 or 2 feet long, closed at both ends, with a handle at one end to draw it out. Large fireplaces for wood require flues from 12 to 24 inches in diameter, depending on the height of the chimney, low chimneys requiring the longest. For coal they may be made smaller—from 8 to 10 inches in mean diameter.



Proper construction of fireplace and chimney to prevent smoking.

CONSTRUCTION OF FIREPLACES AND CHIMNEYS.
See opposite.

1875

F.—Stoves and ranges for Army use.—Specifications, supply-table, &c.

WAR DEPARTMENT, QUARTERMASTER-GENERAL'S OFFICE,
Washington, May 25, 1876.

Under authority of the Secretary of War, who has approved the recommendations of the Board of officers appointed by paragraph 2, Special Orders No. 68, War Department, Adjutant-General's Office, dated April 17, 1875, "to meet at Omaha, Nebraska, on the 15th day of May, 1875, or as soon thereafter as practicable, to draw up and submit for the consideration of the Secretary of War specifications for cooking and heating stoves and ranges for Army use, and to prepare a supply-table, giving the number to be supplied for use of officers and of men in public quarters and barracks;" and who has approved the recommendations made by this office in forwarding the Board's report for his consideration, the subjoined extract from the report of the Board, including the drawings of the stoves and ranges recommended for use, the supply-table, the orders appointing the Board, &c., and the papers (or extracts thereof) referred to in the report, embracing all that is material and necessary to a proper understanding thereof; and also the indorsements of this office, and of the Adjutant-General and Secretary of War, showing the action thereon, are hereby published for the information and guidance of officers of the Army.

M. C. MEIGS,
Quartermaster-General, Brt. Maj. Gen'l, U. S. A.

(4734 Q. M. G. O., 1875.)

REPORT.

OMAHA, NEB., *November 15, 1875.*

* * * * * * *

After examining a great variety of patterns of heating and cooking stoves and ranges which were presented to the Board by different manufacturers and dealers from various localities, also heating and cooking stoves and ranges which are in use in the city of Omaha, and practically testing different patterns of cooking-ranges at Omaha Barracks—giving due attention to the letters, circulars, and price-lists from manufacturers and dealers, and other sources received by the Board—after mature and careful consideration of the subject submitted to them, in connection with letters from the War Department, (Quartermaster-General's Office,) hereto attached, the Board respectfully recommend stoves and ranges similar to the following:

The heating-stoves and cooking-ranges are distinguished by the following names and numbers:

Army cast-iron wood heater, No. 1.
Army cast-iron wood heater, No. 2.
Army cast-iron wood heater, No. 3.

* * * * * * *

Weight of No. 1, from 600 to 700 pounds; Nos. 2 and 3, from 900 to 1,000 pounds.

The No. 1 is described as follows:

To be made of first-class cast-iron.
Length of stove, 31 inches.
Width of stove, 13 inches.
Height of stove, 21½ inches.
Thickness of side plates, ½ inch.
Thickness of bottom, top, and front plates, ⅝ inch.
Height of legs, 8 inches.
Size of door, 9 by 14 inches.
Size of pipe, 5 inches.

[NOTE BY THE QUARTERMASTER-GENERAL'S OFFICE.—The size of the pipe to be 6 inches instead of 5 inches. Recommendation of the Quartermaster-General in submitting report to Secretary of War. Approved by the latter.]

The sides of the stove are formed by three plates of equal dimensions, and the same as the end plate; the longest edges of the side and end plates have a bevel of 45°, which renders any one of them interchangeable with any other, and are fastened at the top and bottom by eight half-inch round iron rods, the top by the knobs of the rods, and the bottom by screws.

The door is held by a loose hinge, the base of which is attached to the front plate by screw-bolts; the hinge being loose, the door can be opened and shut without a movable latch.

The No. 2 is described as follows:

It is the same as the No. 1, with the following exceptions:
Length of stove, 31.9 inches.
Width of stove, 17.8 inches.

Height of stove, 24 inches.
Thickness of iron, ½ inch.
Thickness of front plate, 1 inch.
Height of legs, 10 inches.
Size of door, 10 by 15 inches.
Size of pipe, 6 inches.

[NOTE BY THE QUARTERMASTER-GENERAL'S OFFICE.—The size of the pipe to be 7 inches instead of 6 inches. Recommendation of the Quartermaster-General in submitting report to Secretary of War. Approved by the latter.]

The No. 3 is described as follows:

It is the same as the No. 2, except that this stove has two doors and two hearths, and all the upright plates are interchangeable, and the stove-pipe hole is in the middle of the stove.

[NOTE BY THE QUARTERMASTER-GENERAL'S OFFICE.—The size of the pipe to be 8 inches instead of 6 inches. Recommendation of the Quartermaster-General in submitting report to the Secretary of War. Approved by the latter.]

For further explanations and details see drawings of Army wood heater, Nos. 1, 2, and 3, marked "J," "K," and "L."

The three wood heating stoves above named are recommended for general use in the Army; they are durable and plain patterns, and the sides and end plates are interchangeable.

Nos. 2 and 3 are especially recommended for heating large rooms. No. 3, with two doors, it is believed possesses the advantage of burning fuel more evenly, and a trial of it is recommended. It is believed that each of the foregoing stoves should last in Army use indefinitely.

Army wrought-iron wood heater, No. 4.
Army wrought-iron wood heater, No. 5.

* * * * * * *

The No. 5 is described as follows:

To be made of heavy wrought iron.
Length, 4 feet 2 inches.
Width, 1 foot 6½ inches.
Size of door, 12¾ by 12½ inches.

The body is made of No. 10 wrought iron, with ribs of 1¼-inch angle-iron riveted to the body, preventing the body from warping or bulging. The bottom is round and holds several inches of ashes, protecting the iron and the floor from heat. The front of the stove, where the door hangs, is made of bar-iron forged, 3 inches wide by ¼ inch thick. The back end of the stove has three strips of wrought-iron 3 inches wide by ¼ inch thick, riveted on the outside, so that it is sufficiently strengthened against being struck by wood thrown into the stove. The hearth is made of heavy wrought-iron, and is hooked to the stove by a heavy wrought-iron catch, and it can be unhooked and placed inside the stove when shipped.

The No. 4 is described as follows:

Length, 30 inches.
Width, 12 inches.
Size of door, 9 by 9 inches.
Other description the same as Army wrought-iron wood heater, No. 5.

For further explanations and details see drawings of Army wrought-iron wood heater, Nos. 4 and 5, marked "M" and "N."

The above wrought-iron stoves are recommended to supply posts distant from the seats of manufacture and from the general depots and posts, reached only by long lines of wagon transportation. It is a very strong pattern; it being made of wrought-iron, it has greater capacity than a stove of similar weight made of cast-iron, thereby saving the transportation, and is not as likely to be broken as a cast-iron stove. It can also be repaired at a post by a blacksmith, should it be required. It is believed that each of these wrought-iron stoves should ordinarily last in Army use from five to ten years.

Army cast-iron coal heater, No. 6.
Army cast-iron coal heater, No. 7.

* * * * * * *

[NOTE BY THE QUARTERMASTER-GENERAL'S OFFICE.—Weight about 275 pounds and 1,000 pounds respectively.]

The No. 6 is described as follows:

Height of stove, 23 inches.
Diameter of stove, 15 inches.
Diameter of stove bottom, 16½ inches.
Diameter of stove top, 16½ inches.

This stove consists of four parts, Nos. 1, 2, 3, and 4. No. 1 is ⅝ inch thick; No. 2, ½ inch; No. 3, ½ inch; and No. 4, ½ inch. Diameter of the grate 8 inches, and ½ inch thick. Top and bottom, ½ inch thick. The top of the stove is fastened to the bottom

1875

of the stove by three ½-inch thick wrought-iron rods; the top of the rods by the knob of the rods, and the bottom by screws.

The No. 7 is described as follows:

To be manufactured of ⅝-inch cast iron.
Height of stove, 3 feet 7½ inches.
Diameter of stove, 20 inches.
Height of each cylinder, 13½ inches.
Size of doors, 8 by 10 inches.
Thickness of doors, ½ inch.
Thickness of grate, ½ by ⅝ inch.
Thickness of bottom and top, ¾ inch.
Diameter of stove-pipe, 6 inches.
Diameter of grate, 14½ inches.

This stove consists of four cylindrical parts. The cylinders marked Nos. 1 and 3 and Nos. 2 and 4 are interchangeable. The grate is in two parts, (halves,) so that it can be readily removed; it rests on a ⅝-inch ring or shoulder inside of the stove. The stove is fastened by three ½-inch thick wrought-iron rods, holding the top to the bottom: the top is fastened by the knob of the rods, and the bottom by nuts secured on to the end of the rods.

For further explanations and details, see drawings of Army cast-iron coal heater, Nos. 6 and 7, marked "O" and "P."

The No. 6 is recommended for general use, and the No. 7 is especially recommended for use in barracks and other large rooms in cold climates. They are both adapted for the use of bituminous as well as anthracite coal, and it is believed that each of these stoves should ordinarily last in Army use from five to ten years.

Army parlor heater.

* * * * * * *

This stove is described as follows:

To be built of first class cast iron.
Height, 2 feet 7½ inches.
Width outside, 2 feet 2 inches.
Width inside, 18 inches.
Thickness of bottom and top, ½ inch.
Thickness of outside mantel, ½ inch.
Thickness of outside fire-mantel, ¾ inch, in fire-brick.
The opening for fuel can be covered by a sheet-iron blower.

This stove is intended to burn anthracite and bituminous coal, and can also be used for wood. It is recommended more especially for officers' use. It is believed that such a stove should ordinarily last in Army use about five years. See accompanying drawing of the above described stove, marked "Q." This is considered by the Board as one among many of the very good patterns of open coal-stoves, and do not consider it necessary to recommend any particular pattern as most suitable to be adopted.

Army cooking range, No. 1.
Army cooking range, No. 2.

* * * * * * *

No. 1 with mantel and trimmings.

* * * * * * *

No. 2 without mantel and with trimmings.

* * * * * * *

The No. 1 range is described as follows:

To be built of first class wrought iron, No. 10, with cast iron top.
Top cooking surface, 2 feet 10 inches by 2 feet 3 inches.
Size of baking-oven, 1 foot 2½ inches by 1 foot 5½ inches.
Size of warming-oven, 1 foot 4 inches by 1 foot 3½ inches.
Size of holes, 8 inches.
Size of galvanized iron water-tank, 40 gallons.
The back side and bottom are double-cased and filled with hydraulic cement.
The top consists of 13 loose pieces, and of 4 pieces fastened by screws to the side of the range.
To prevent smoking, the top rests on the water-tank in a layer of cement.
The covers of the cooking holes are resting in ½-inch grooves.
The grate consists of 6 iron cast pieces.
The sides of the fire-place are protected by ½-inch cast iron plates.
The water-tank is located on the lower part of the side next to the inside of the range.
The oven doors are lined, to avoid wasting heat.
The different sizes and measure of the range doors, &c., are shown by the drawing.

The No. 2 range is described as follows:

The same as the No. 1 range, with the following exception—
Size of top cooking surface, 3 feet 7 inches by 2 feet 9 inches.
Size of baking oven, 1 foot 4 inches by 1 foot 10½ inches.

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Size of warming oven, 1 foot 3 inches by 11½ inches.

Size of cooking holes, 9 inches.

The top consists of 9 loose pieces and 4 pieces fastened by screws to the sides of the range.

The grate consists of 3 iron cast pieces.

The following is a list of the trimmings for these ranges:

Tin trimmings:
    1 wash-boiler.
    1 coffee-boiler.
    1 steamer.
    1 tea-kettle, (iron or tin.)
    3 bake-pans.
    1 pot-cover.
$\frac{1}{4}$-inch cast iron:
    2 pots.
    2 skillets.
    2 griddles.
    1 iron-heater.
Sheet iron No. 26:
    3 joints pipe.
    1 elbow.

For further explanations and details see drawings of Army cooking range, Nos. 1 and 2, marked "R" and "S."

These ranges are intended for either coal or wood, without alteration.

The No. 2 range has ample capacity for cooking for any company of troops, and is recommended for the use of companies and large hospitals, according to the number of men to be provided for. The No. 1 is recommended for small hospitals, bands, detachments, officers' messes, and for officers with families, when smaller size stoves will not suffice. It is believed that each of these ranges should ordinarily last in Army use from five to ten years.

The Board concur in the opinion of the Quartermaster-General, hereto attached, marked "D," relative to the allowance of stoves: that the maximum allowance of stoves to be purchased by the Quartermaster's Department should not exceed for officers occupying public quarters owned or hired by the United States for the use of troops, a greater number, including heating and cooking, than their allowance of rooms requires, say, for a lieutenant 2, for a captain 3, as a limit, and not these if the rooms have open fire-places, except in very severe climates; for a company of troops a cooking range sufficient to cook its food, two large stoves in the dormitory, one large stove in each mess-room and day-room, and one small stove for each of the two rooms for non-commissioned officers, and one small stove for the library, when there are no open fire-places or they are insufficient in very severe climates. These recommendations, as to the maximum allowance of the number of stoves for a company of troops, are based upon the arrangement and general plans of drawings of military buildings, recommended to the Secretary of War by the Board on Revision of the Army Regulations, published September 14, 1872. As, however, most of the barracks at present occupied by troops are not built in accordance with the drawings referred to, an absolute fixed allowance of stoves, based on those plans of barracks, would not always be applicable. The Board therefore recommend that a proportionate allowance of stoves be supplied in accordance with the foregoing. It is thought by the Board that the recommendations contained herein will meet all necessary requirements for heating stoves and cooking purposes for the Army. The importance of a system being adopted by which the spare parts of stoves and ranges can be obtained on requisition to replace those rendered unserviceable or lost is too evident to require comment. Attention is also called to the fact that the sheet-iron in general use in the Army for stove-pipe is not heavy enough, as it soon rusts and burns out. The Board recommend that, when it is absolutely necessary, each laundress be allowed to purchase a single stove from the Quartermaster's Department at the invoiced price, when the same can be spared.

The accompanying supply-table for fixing the number of stoves for use of officers and men in public quarters and barracks is respectfully submitted. As far as practicable, the Board has been governed by the suggestions contained in letter from Quartermaster-General's Office, herewith, marked "D," and not recommended for adoption the stoves or ranges of any particular manufacturer. The heating stoves, Nos. 1, 2, and 3, differ somewhat from any the board has ever seen. Numbers 4 and 5 are similar to those advertised to be manufactured by Messrs. Van & Co., of Cincinnati, Ohio. Numbers 6 and 7 are similar to those manufactured by the Union Pacific Railroad Company, the No. 7 being somewhat altered. The Army parlor heater is known as the Harvard stove. The ranges, Nos. 1 and 2, are similar to those manufactured by Messrs. Miller & Co., of Cincinnati, Ohio, the water-tank having been changed on the suggestion of the Board.

There being no further business before it, the Board then adjourned, November [illegible], 1875, *sine die*.

JEFF. C. DAVIS,
Colonel Twenty-third Infantry, U. S. A.
C. GROVER,
Lieutenant-Colonel Third Cavalry, U. S. A.
ALEX. J. PERRY,
Lieut. Col. and D. Q. M. G., U. S. A.
JAS. S. BRISBIN,
Major Second Cavalry, U. S. A.
E. B. ATWOOD,
Captain and A. Q. M., U. S. A.

Supply-table of allowances of stoves, recommended by the Board of officers appointed per Special Orders No. [illegible], War Department, Adjutant-General's Office, April 17, 1875, (where quarters are not provided with open grates, or fire-places, or these are insufficient in very severe climates.)

	Per quarters.		Per office.
	Heating-stoves.	Cooking-stoves or ranges.	Heating-stoves.
The General. (Allowed by law for quarters and fuel $200 per month.)			
The Lieutenant-General or major-general	5	1	
A brigadier-general or colonel	4	1	
A lieutenant-colonel or major	3	1	
A captain or chaplain	2	1	
A lieutenant	1	1	
The General commanding the Army			3
The commanding officers of a geographical division or department			2
An assistant or deputy quartermaster-general; an assistant commissary-general of subsistence; an assistant surgeon-general; the assistant judge-advocate general; the assistant and deputy paymaster-general; and the chief quartermaster and chief commissary of subsistence at the headquarters of a geographical division or department			2
The commanding officer of a regiment or post, a paymaster, quartermaster, assistant quartermaster, commissary of subsistence, military store-keeper, and medical store-keeper, each			[illegible]
An assistant adjutant-general; an inspector-general, or an assistant inspector-general; an engineer officer,* an ordnance officer,* a judge-advocate, a medical purveyor, and the senior medical officer when stationed on duty at any place not in the field*			1
An acting assistant quartermaster, an acting assistant commissary of subsistence, a regimental or post adjutant, when approved by the Quartermaster-General, each			1
A wagon or forage master, sergeant-major, ordnance-sergeant, saddler-sergeant, quartermaster-sergeant, commissary-sergeant, hospital-steward, regimental veterinary surgeon, chief trumpeter, and principal musician, each	1		
Superintendent national cemetery	1		
For a company: Two large stoves in dormitory, one large stove in each the mess-room and day-room, one small stove for each of the two rooms for non-commissioned officers, and one small stove for the library, and one cooking stove or range sufficient to cook its food	7	1	
Each necessary fire for the sick in hospital, each dispensary and hospital mess-room, to be regulated by the commanding officer and surgeon, not exceeding	1		
Each hospital-kitchen		1	
For each guard-house, fire to be regulated by the commanding officer, not exceeding	1		
Each necessary fire for military courts or boards, not exceeding	1		
For chapel, reading or school room, upon requisition approved by the commanding officer	1		
Store-houses of a commissary, quartermaster, and medical purveyor, when necessary, not exceeding	1		
A regimental or post mess		1	
For each authorized room as quarters for civilian employés	1		
For each six civilian employés to whom fuel is allowed	1		
For mess of civilian employés		1	
For telegraph-office	1		
For each blacksmith, carpenter, and saddler shop	1		

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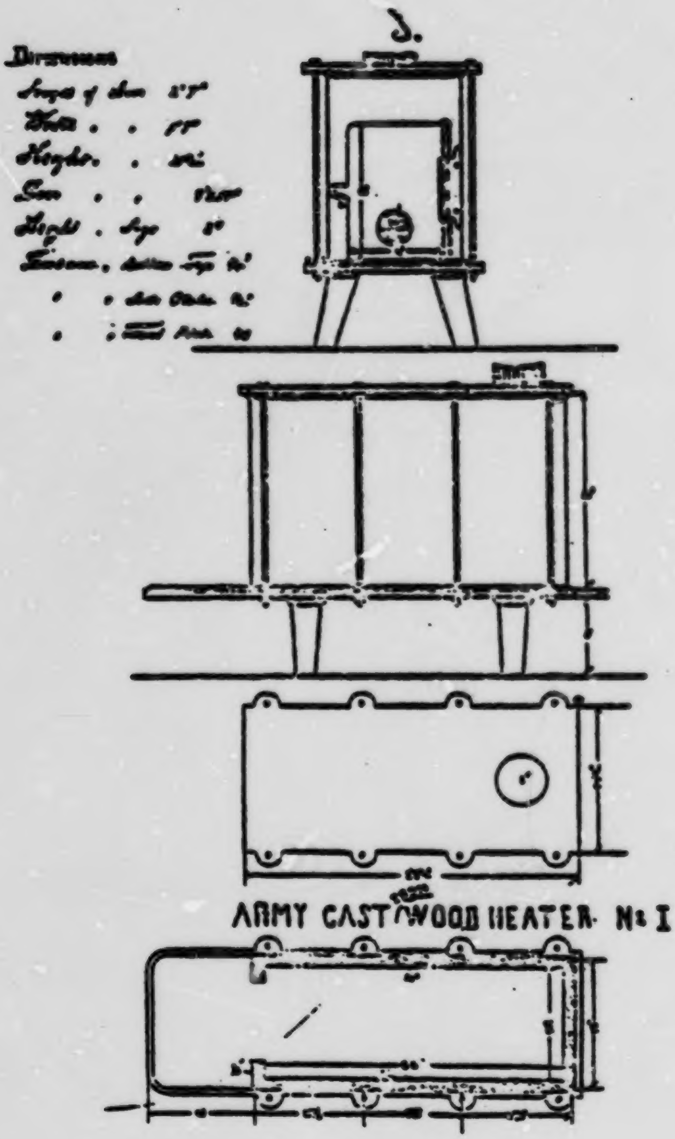
* Except at Military Academy.

[NOTE BY THE QUARTERMASTER-GENERAL'S OFFICE.—The necessary heating-stoves for the additional office-rooms authorized by General Orders No. [illegible], War Department, Adjutant-General's Office, November 1, 1875, will be allowed, not exceeding one heating-stove for each room.]

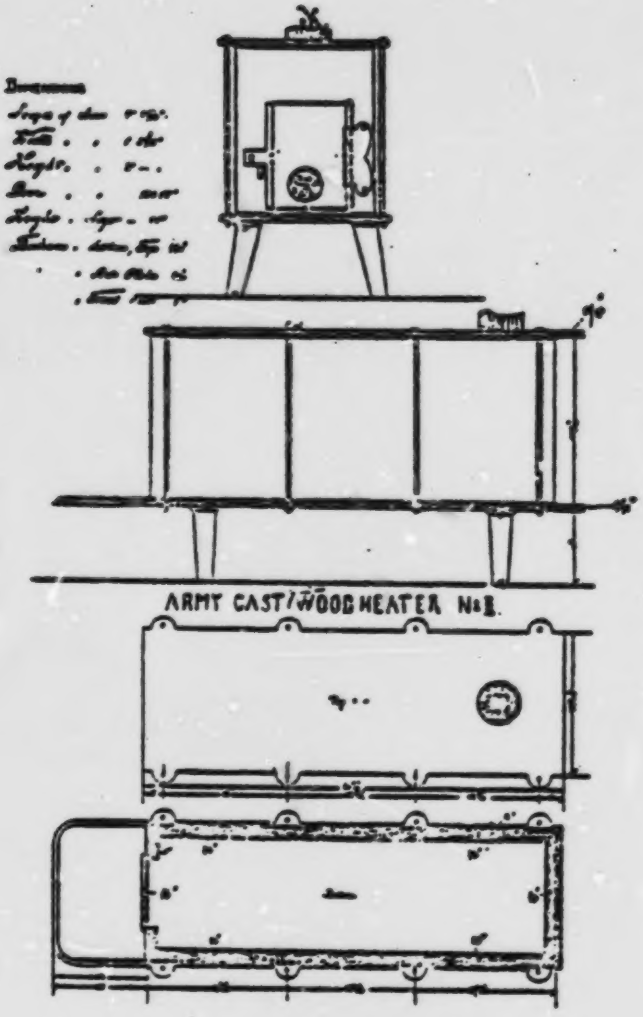
1875


Dimensions
Width
Height
Door

ARMY CAST STEEL WOOD HEATER No I

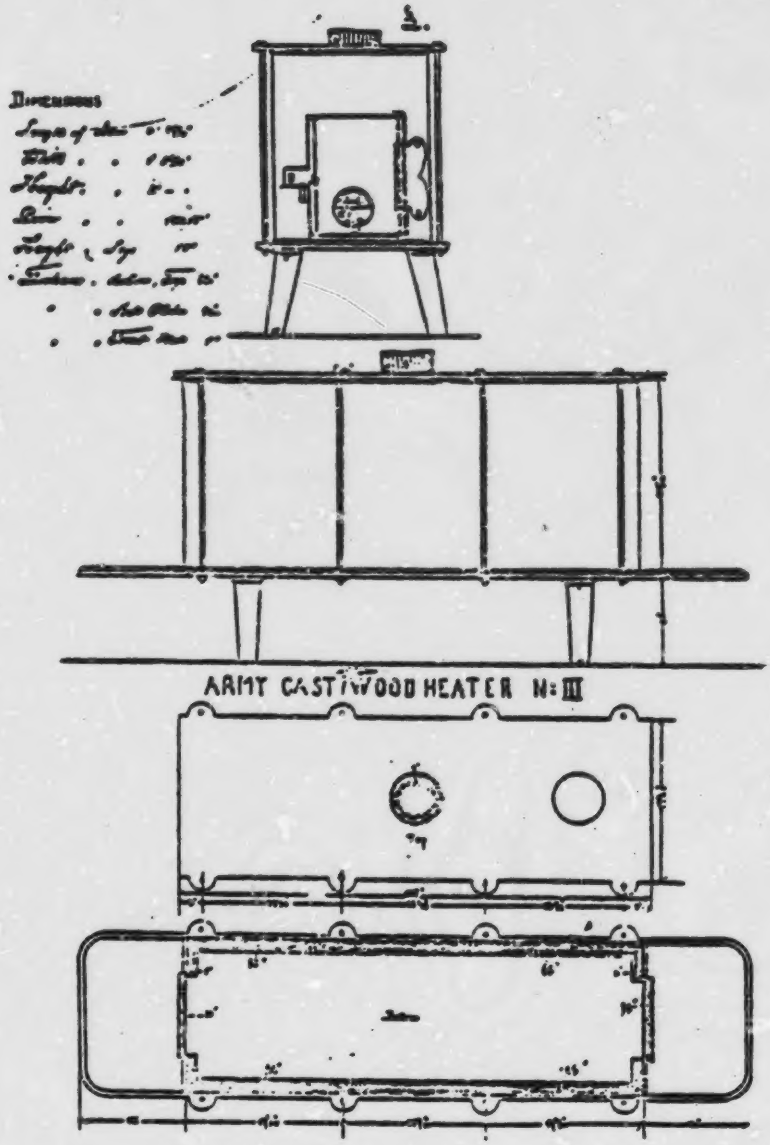
NOTE BY Q.M.G.O.— SIZE OF THE PIPE TO BE [illegible] [illegible] [illegible]. [illegible] OF [illegible] [illegible] [illegible] [illegible] TO THE COURTESY OF [illegible] [illegible] BY [illegible]

1875


ARMY CAST/WOOD HEATER No.3.

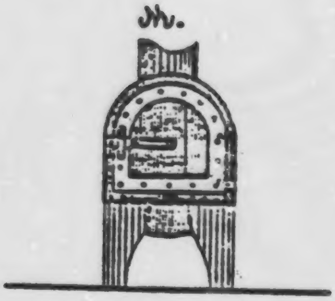
NOTE BY Q.M.G. – Size of the pipe to be 7 inch instead of 6 inch. [illegible]
of [illegible] [illegible] in [illegible] report to the Secretary of War.
Approved by letter.

1875

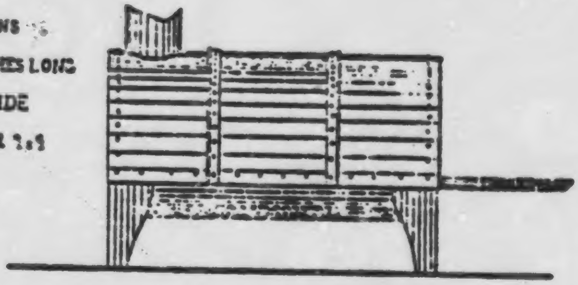

Dimensions
ARMY CAST WOOD HEATER N: III

[illegible]

1875



FRONT ELEVATION



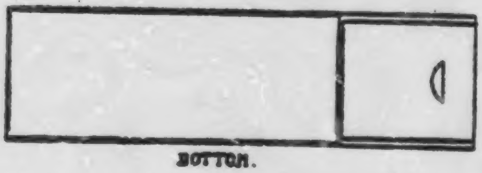
DIMENSIONS

2 FEET 6 INCHES LONG

12 INCHES WIDE

SIZE OF DOOR 7x9

ARMY WROUGHT IRON WOOD HEATER No III



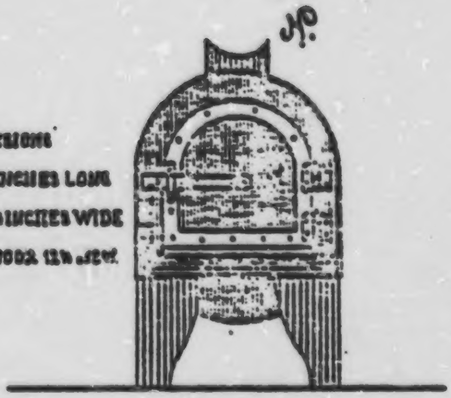
BOTTOM.

DIMENSIONS

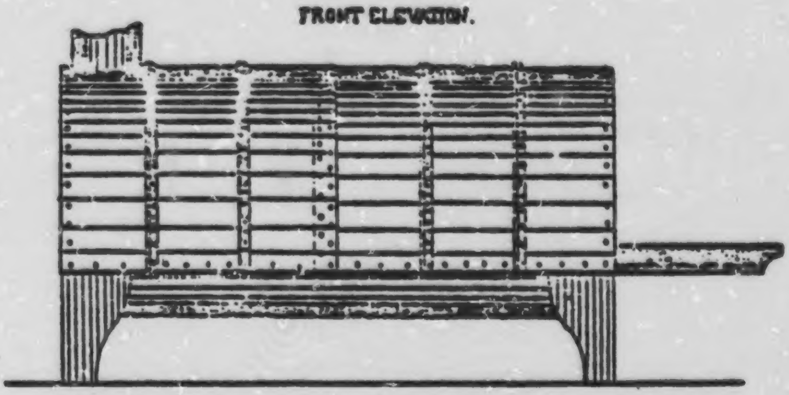
4 FEET 2 INCHES LONG

1 FOOT 6½ INCHES WIDE

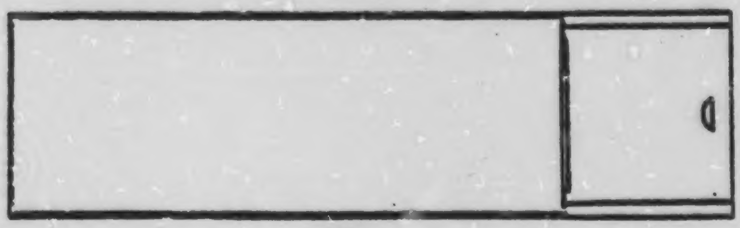
SIZE OF DOOR 12½ [illegible]



FRONT ELEVATION.



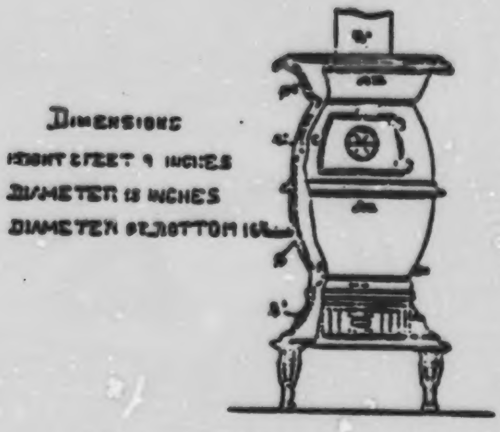
ARMY WROUGHT IRON WOOD HEATER. No V.



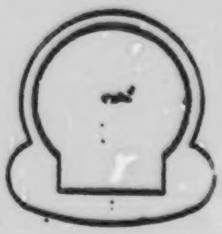
BOTTOM.

1875

O.


DIMENSIONS
HIGHT 2 FEET 9 INCHES
DIAMETER 13 INCHES
DIAMETER OF BOTTOM 16

ARMY CAST IRON COAL HEATER.
No VI



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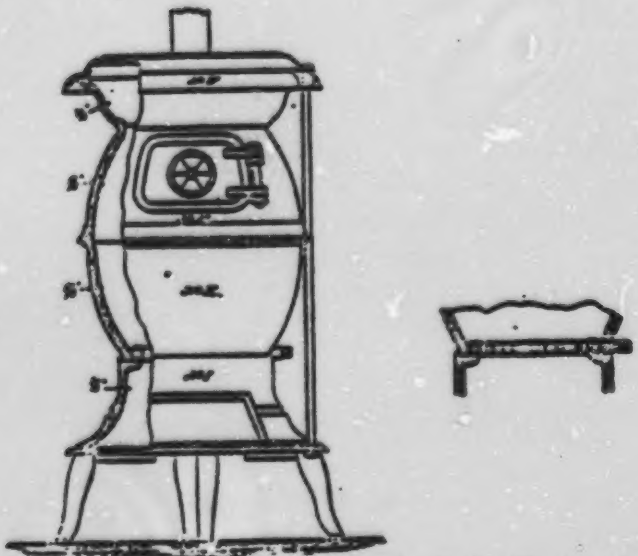
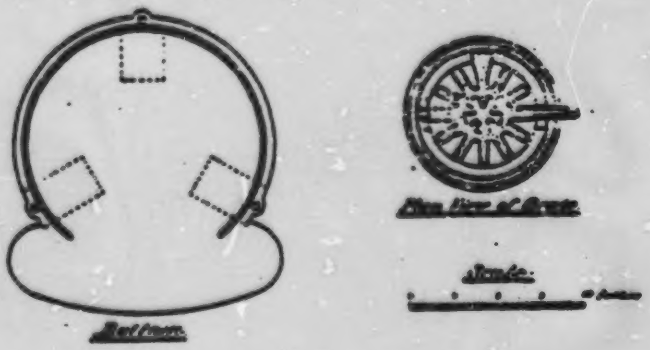
1875

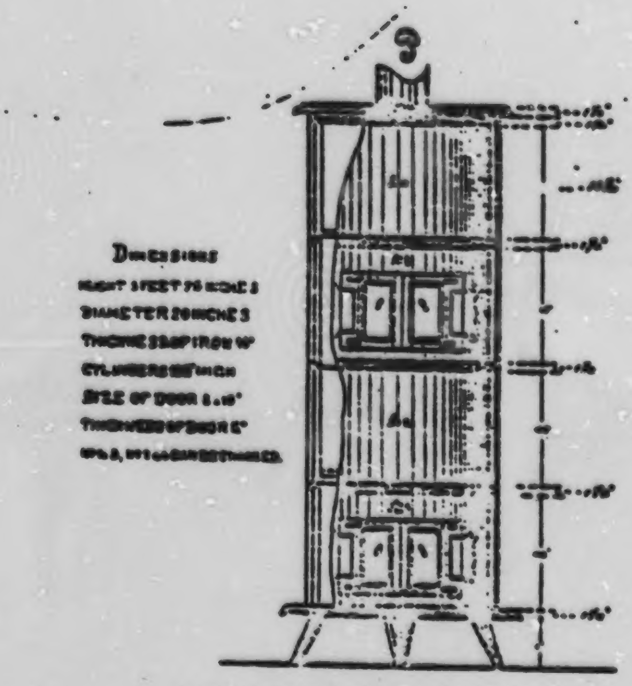
O.



ARMY CAST IRON COAL HEATER Nº VI.


Plan View of Grate
Scale
Bottom

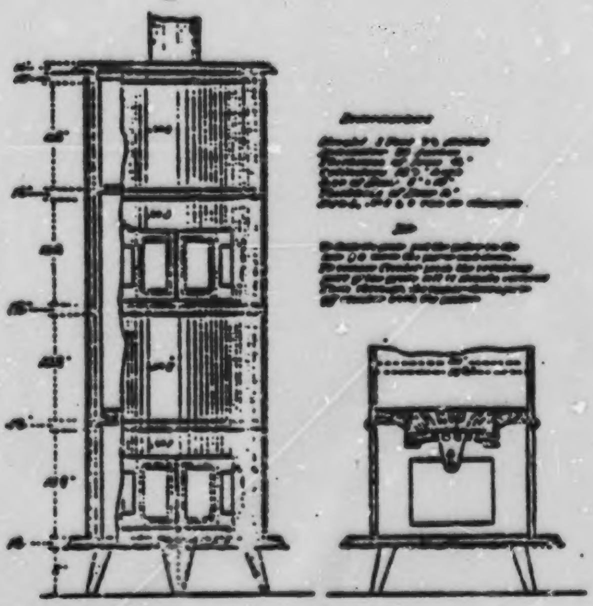
1875


DIMENSIONS
DIAMETER 20 INCHES
SIZE OF DOOR

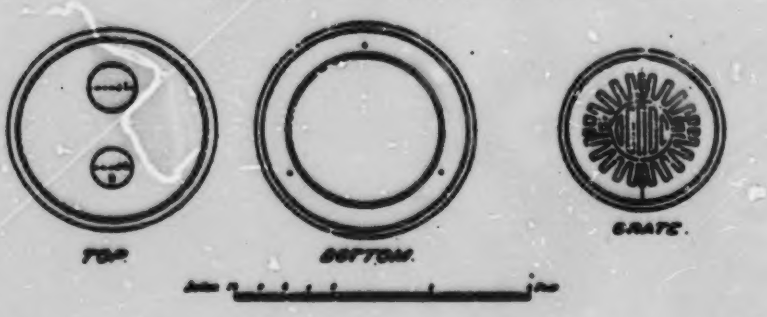
ARMY CAST IRON COAL HEATER. No III

TOP
BOTTOM
GRATE.

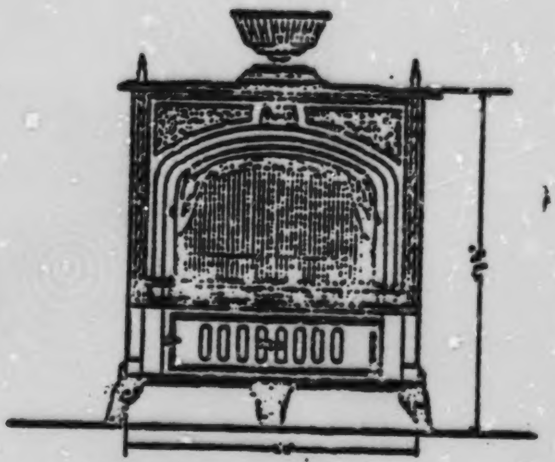
P



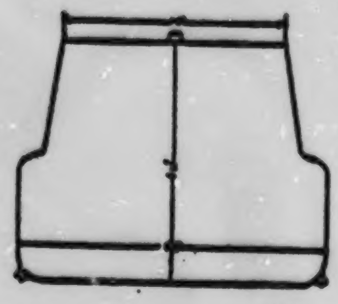
ARMY CAST IRON COAL HEATER. No VII.


TOP.
BOTTOM.
GRATE.

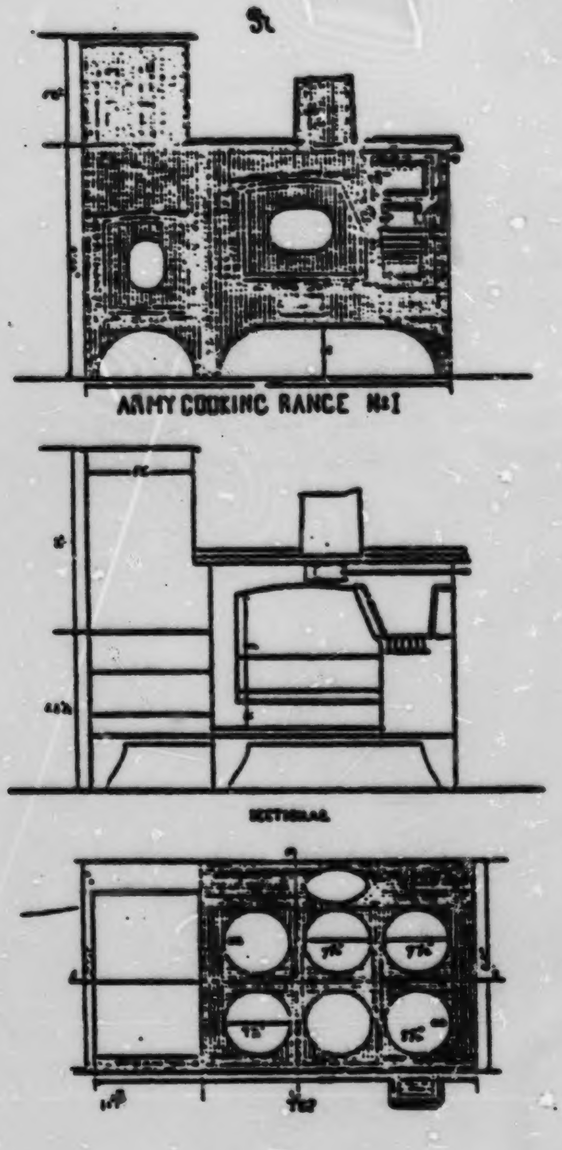
a.



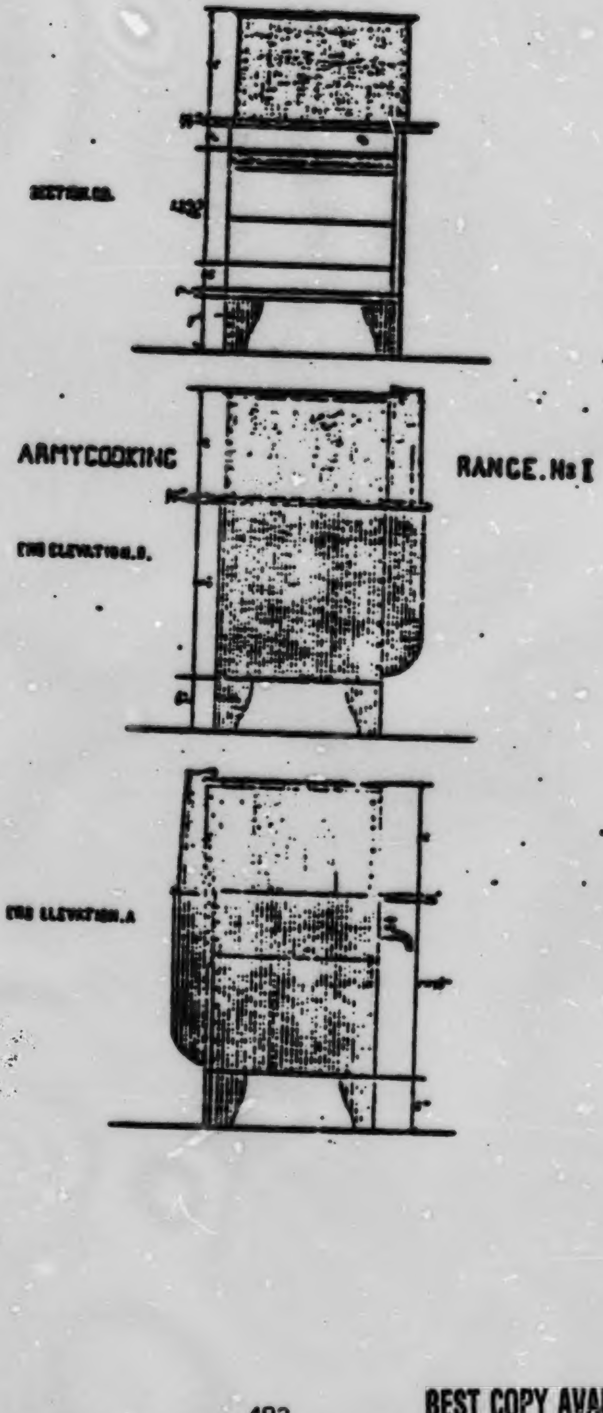
ARMY PARLOR HEATER.



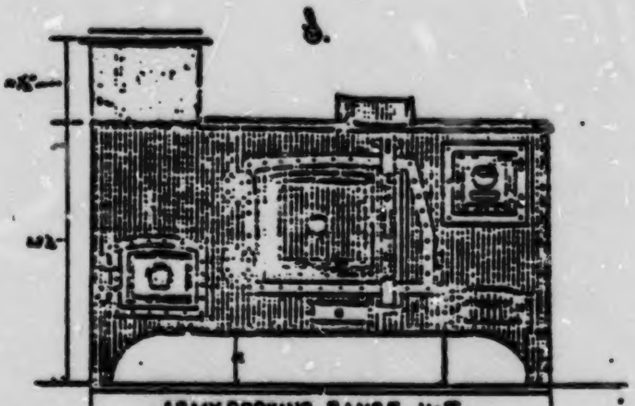
1875



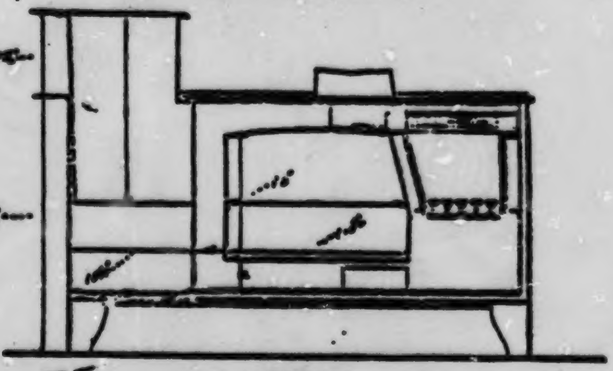
ARMY COOKING RANGE No I


SECTION C.D.
ARMYCOOKING RANGE. No I
END ELEVATION B.
END ELEVATION A

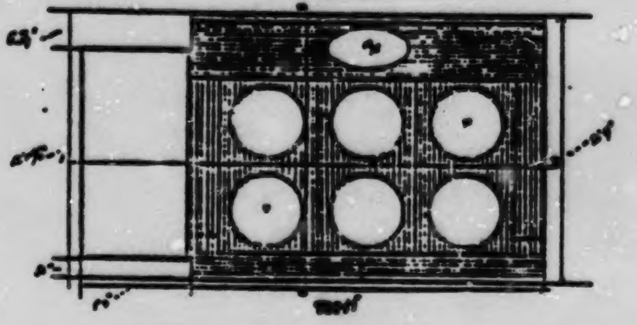
1875



ARMY COOKING RANGE No II

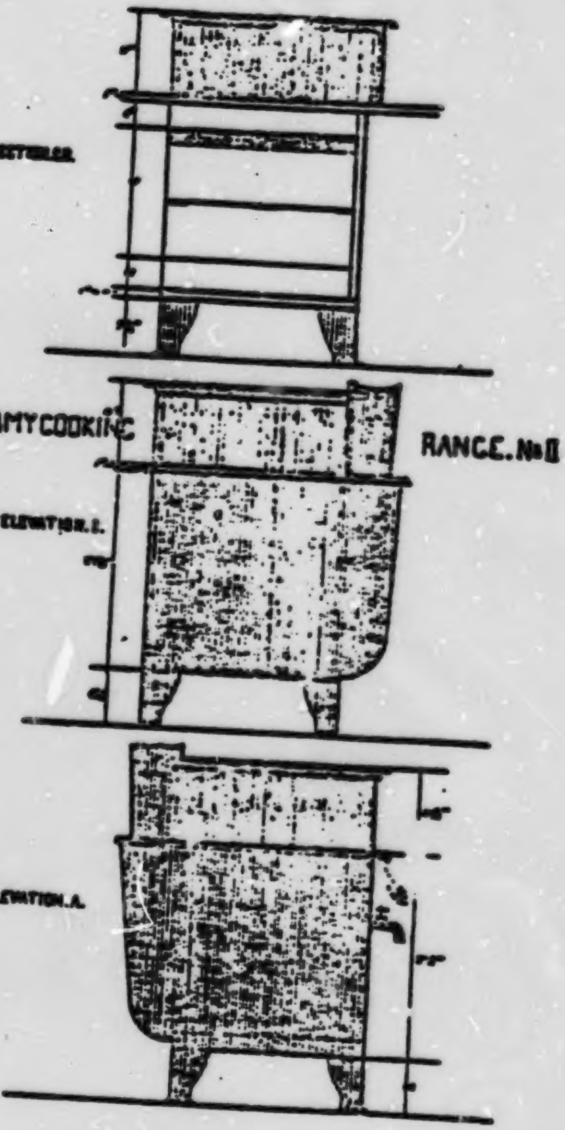


SECTION AB



FRONT

1875


SECTION C.D.
ARMY COOKING RANGE. No 8
SIDE ELEVATION B.
END ELEVATION A.

SPECIFICATIONS OF FURNITURE

FOR THE

Nos. 1 and 2 Army Cooking-Ranges,

ADOPTED BY CIRCULAR FROM QUARTERMASTER GENERAL'S OFFICE,
DATED MAY 26, 1876.

RANGE No. 1.

One wash-boiler.—The wash-boiler to be of 4 XXXX bright charcoal tin, with oval ends, and drop bottom ⅜ inch deep, of 18-oz. copper; length 21½ inches, width 10¼ inches out to out; extreme depth inclusive of drop bottom, 14 inches. Capacity 11 gallons.

Ears.—Ears of same material as boiler; to be 2¼ inches wide, 1 inch long, riveted on and doubled to take handle.

Handles.—Handles of No. 5 iron wire, 4 inches long, 1⅝ inch wide out to out. Top to be edged over No. 5 iron wire.

Cover.—Cover to be of 2 XX hundred plate bright charcoal tin with usual pitch.

Lifting-handle.—Lifting-handle, 1¼ inch wide, with creased edges, to form one-half of circle 3¾ inches diameter; to be soldered and riveted on.

Rim.—Rim of cover 1 inch deep.

One coffee-boiler.—The coffee-boiler to be of 3 XXX hundred plate bright charcoal tin, with drop bottom ¼ inch deep, of 18-oz. copper. Diameter at base 8¼ inches, tapering to 5½ inches at top; extreme depth 9¼ inches, inclusive of drop bottom. Capacity 1½ gallon. Top to be edged over No. 9 iron wire.

Ears.—Boiler to have substantial ears 1⅜ inch long, 1¼ inch wide, finished, tapering to ¾ inch at top. Ears to be riveted on.

Bail.—Bail to be of No. 8 iron-wire.

Handle.—Handle to be 1¼ inch wide at top, tapering to ½ inch at lower end, with 2½-inch arch; extreme length 5¼ inches. To be edged over No. 9 iron wire, soldered and riveted to boiler.

Lip.—Lip to project 1¼ inch at top; width at boiler to be 2⅝ inches, tapering to 1 inch at point; to be edged and double-creased and applied to boiler with three rivets. To have not less than thirty perforations on inside, properly spaced.

Cover.—Cover to be of 2 XX hundred plate bright charcoal tin, with ⅜-inch rim.

Ring.—Lifting-ring to be 1 inch diameter, ⅜ inch wide, edged and creased; clinched through cover and soldered.

One steamer.—The steamer to be of 2 XX hundred plate bright charcoal tin, 10½ inches diameter out to out, depth 4½ inches. Top to be edged over No. 8 iron wire. Bottom to be without rim, pinned to body; to have three triangular rests arranged to fit pot, and to have not less than fifty-seven (57) perforations, each 3/16 inch diameter, properly spaced.

Handles.—Handles to be 1¼ inch wide, 3½ inches long, with 1¼-inch arch at bottom. To be edged and creased and soldered on.

Cover.—Cover to be of same material as steamer, with usual pitch, and ⅜-inch rim.

Handle.—The lifting-handle to be 1¼ inch wide, and to form a half circle of 3½ inches diameter; to be edged and creased, soldered and riveted on.

One tea-kettle.—The tea-kettle to be of best quality cast-iron, not less than 1/16 inch thick; size, No. 8 of standard pattern, with sliding lid; capacity 1½ gallon.

Bail.—Bail to be of ½-inch half-oval iron.

Weight.—Weight to be not less than 8½ pounds.

Three bake-pans.—The bake-pans to be of No. 22 smooth, cleaned, charcoal sheet-iron, without seams, and with substantial folds at corners, and of two sizes, as follows:

Size.—One (1) 15 x 16½ inches, two (2) 7½ x 15½ inches, measurement on bottom outside; all to be 2½ inches deep, with 1 inch flare on all sides. Large pan to be edged over No. 6, and small pans over No. 8 iron wire.

Ears.—Ears to be 2 inches long, 1¼ inch wide, doubled over handles, and applied with two rivets in each.

Handles.—Handles to be of No. 7 iron wire; length 3¼ inches, width 1¼ inch out to out.

One pot cover.—The pot cover to be of 2 XX hundred plate bright charcoal tin, 10½ inches diameter, with not less than four corrugations on surface.

Ring.—Lifting-ring to be of No. 11 iron wire, clinched through and soldered.

Two pots.—The pots to be of best quality cast-iron, not less than 1/16 inch thick, of standard pattern; diameter at top 10½ inches out to out, depth at center 9¼ inches. Capacity 2½ gallons each.

Bail.—Bail to be of No. 4 iron wire.

Weight.—Weight to be not less than 8½ pounds.

Two skillets.—The skillets to be of best quality cast-iron, not less than 1/16 inch thick; diameter, out to out at bottom, 9 inches; depth 1¾ inch; flare of sides ⅜ inch.

Lip.—Lip, on left side from handle, of proper projection.

Handle.—Handle to be 5 inches long, curved; greatest width 1¼

Weight.—Skillets to weigh not less than 3¾ pounds each.

Two griddles.—The griddles to be of best quality cast-iron, not less $\frac{1}{16}$ inch thick; diameter, out to out, 9¾ inches; depth to be ½ inch. To have rim formed in casting to fit 8-inch opening.

Handle.—Handle to correspond in size and pattern to those of skillets.

Weight.—Weight of griddles to be not less than 2¾ pounds each.

One iron-heater.—The iron-heater to be of best quality cast-iron, not less than $\frac{1}{16}$ inch thick, with oval ends; length, out to out exclusive of handle, 12¼ inches; width, out to out, 9½ inches inclusive of flange; depth 1½ inch, with slight flare of sides.

Flange.—Flange 1 inch wide, with $\frac{3}{16}$-inch molded edge.

Handles.—End handles to be formed in casting, not less than 2 x 1¼ inch, with openings 1 x ⅝ inch.

Weight.—Weight of heater to be not less than 5¼ pounds.

Three joints and one elbow stove-pipe.—The stove-pipe and elbow to be of best quality sheet-iron, No. 24, size 7-inch; pipe to be double-seamed, riveted at ends, beaded 1¾ inch from top. Elbow to be curved and formed of not more than five pieces, the pieces to be substantially riveted.

RANGE No. 2.

One wash-boiler.—The wash-boiler to be identical in material, style, and finish with that for No. 1 range; length 23½ inches, width 11¾ inches out to out, extreme depth 14 inches, inclusive of drop in bottom. Capacity 14 gallons.

One coffee-boiler.—The coffee-boiler to be identical in material, style, and finish with that for No. 1 range; diameter at base 11½ inches, tapering to 7 inches diameter at top; extreme depth 11¾ inches, inclusive of drop in bottom. Capacity 3 gallons.

Ears.—Ears to be 1½ inch long, 1½ inch wide, tapering to 1 inch at top.

Bail.—Bail to be of No. 7 wire.

Handle.—Handle to be 1½ inch wide at top, tapering to ¾ inch, with 3-inch arch.

Lip.—Lip to project 2¼ inches, width at top 2½ inches, tapering to 1¼ inch at point. To have not less than forty-two perforations on inside, properly spaced.

One steamer.—The steamer to be identical in material, style, and finish with that for No. 1 range; diameter at top 11¼ inches out to out; depth 4½ inches; bottom to have not less than fifty-nine perforations, each $\frac{3}{16}$ inch diameter, properly spaced.

One tea-kettle.—The tea-kettle to be identical in material and style with that for No. 1. Size to be No. 9. Capacity 2 gallons.

8

APPENDIX D
EARLY IRON BUNKS

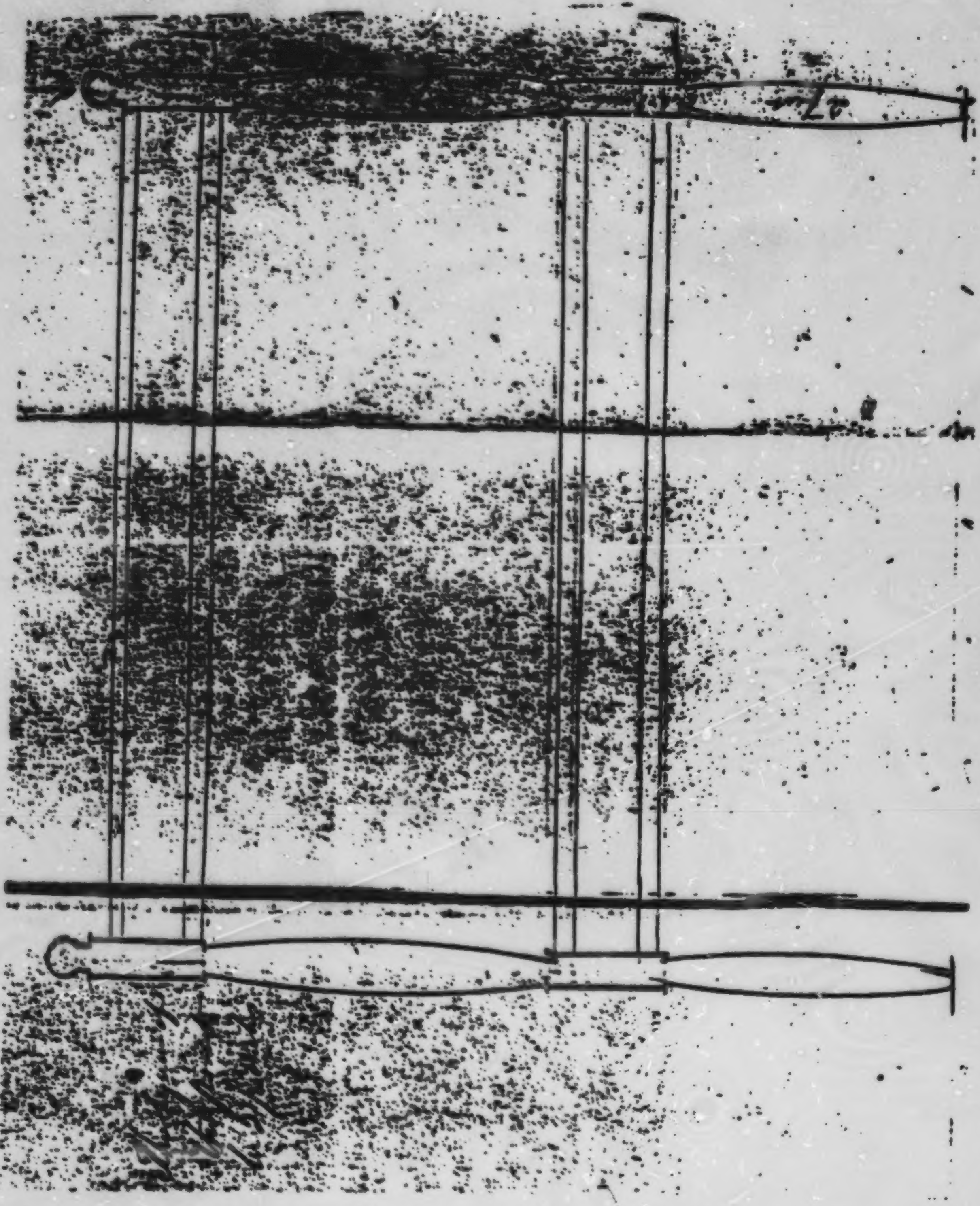
This appendix presents copies of original designs for two-level iron bunks proposed before 1870 but not adopted for general use in the Army, in order:

1848, pencil sketch of bunk proposed by Whiting for the forts at New York City (accompanying Whiting to Jesup, Oct. 23, 1848, QMConFile--Bunks, RG92). There is no positive evidence that bunks following this pattern were actually constructed. But it is known that iron bunks were placed in many of the New York barracks during the 1850s, including the recruiting depot at David's Island, where a few years later the men slept on floors because the iron bunks had fallen appart. This sketch may be more useful in showing the general form of wooden bunks, which it probably followed, in use at New York in the late 1840s.

1869, sketch of two-level, two-man iron bunk designed by a quartermaster at the St. Louis depot (accompanying Thomas to Rucker, Sept. 10, 1869, QMConFile--Bunks, RG92). The designer requested explicit authority to manufacture the bunks. The question evidently was referred to Washingon, with no apparent response. It is therefore unlikely that this bunk was constructed, although a few two-level, two-man iron bunkbeds were reported by Billings to have been issued at a few western posts before 1875.

Plan of a Soldier's Trunk to be of Iron the uprights or posts of Cast Iron, Rails to be of wrought flat bars covered with Russia Sheet Iron, the above figure is a side view, the ends to be same. Bottom of Hoop Iron woven through each other.

1848, Whiting



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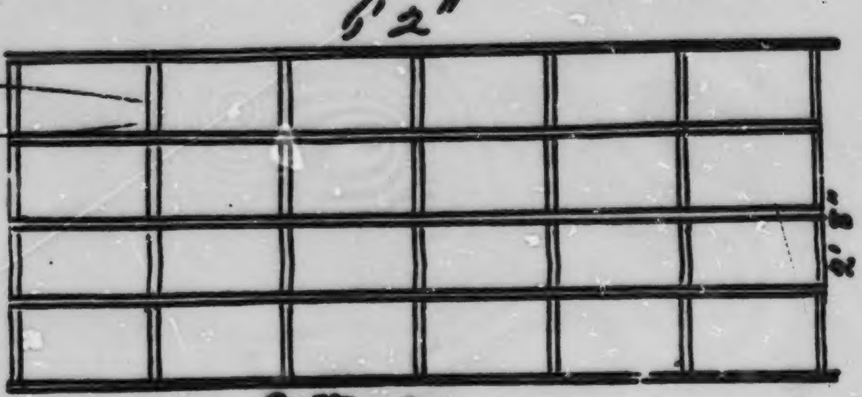
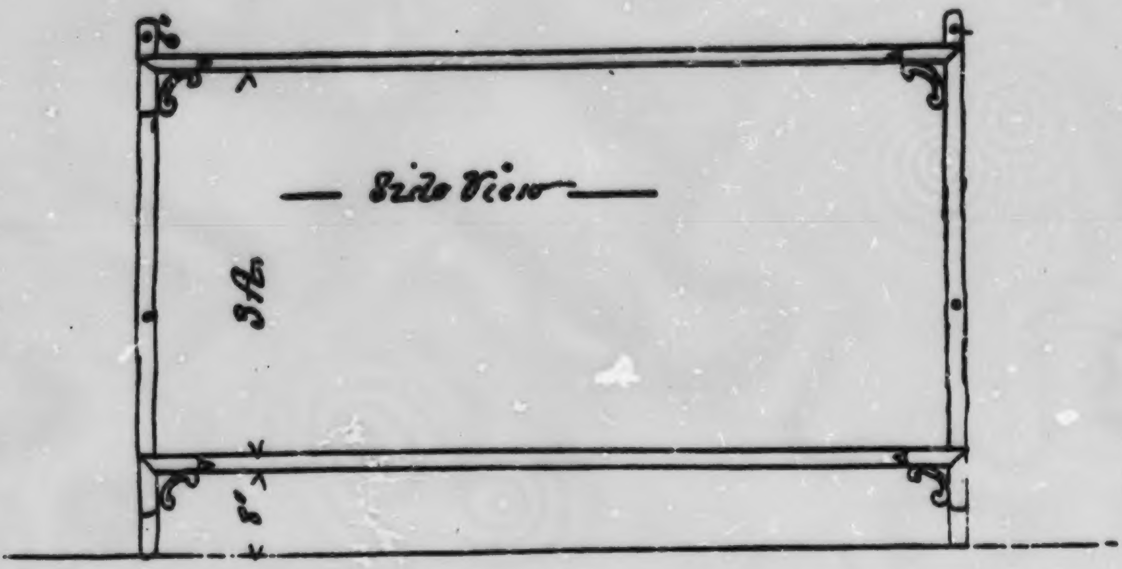


Bottoms

Scale 3/4" = 1 foot

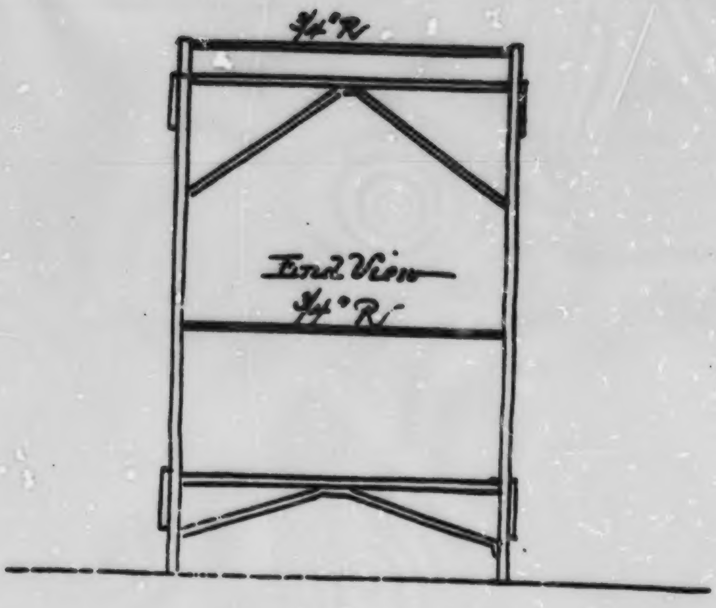

Side View
3 ft
8"

1869, St. Louis

Specification of 2 story Iron Bedstead.

Size 1½ × 9/16.
Side Bars 1¾ × 1/2.
[illegible] Bars 3/4, Round.
[illegible] 1 × 3/8.
[illegible], 3/8 [illegible].
4 Braces 5/8" Round.
4 Cross Bars 3/4 in round.

Each [illegible] made with Cast Door bolts so that the Bedsteads can be shipped apart without [illegible] [illegible] square.



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1869, St. Louis

[illegible]

[illegible]

Hoop Stake [illegible]

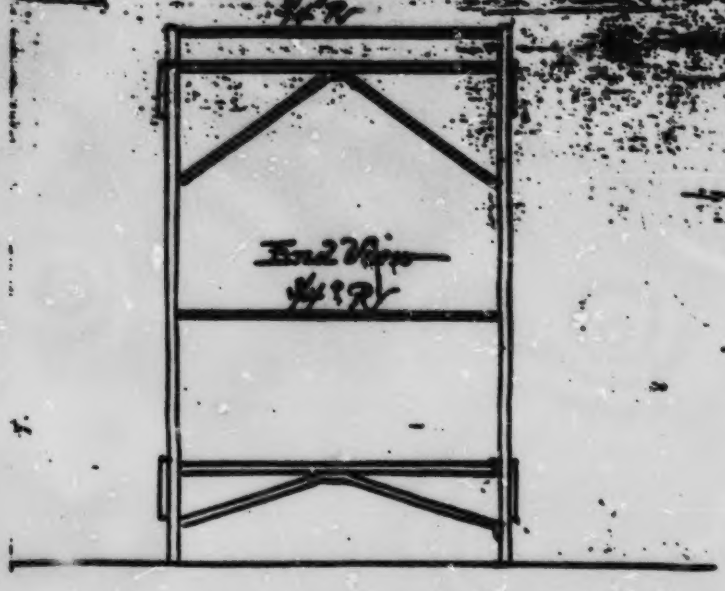
4 Braces 7/8 Round

4 Cross Bars 7/8 R[illegible]

Both Bottoms [illegible]

[illegible]

[illegible]


H R
End View
H & R

APPENDIX E
THE JOHNS BUNK

The iron-and-wood bedstead patented by W. B. Johns in 1858 became, that same year, the first manufactured bedstead approved for general army use. However, only somewhat more than 5,000 were purchased before the Civil War, all apparently used in the forts around New York City. An unknown additional number with unidentified technical modifications saw service in California before the war, and others may have been shipped to Forts Riley and Leavenworth, Kansas. The design was simple, being nothing more than three boards held together by long bolts at each end. But perhaps for that reason it was doomed to failure; all had been junked by the end of the war. However, it is apparent that the essential idea of a wood-and-iron trestle bed left a lasting impression on army minds; and one detail of Johns' invention--the Y-shaped feet--reappeared in later army bunks.

The drawings reproduced in this appendix (all except the patent drawing from QMConFile--Bunks, RG92) are the only contemporary descriptions of any substance. They are, in order, as follows:

1858, original drawing accompanying the patent application

1858, printed patent drawing (from Records of the Patent Office, RG241, lodged in the Center for Cartographic and Architectural Archives, NA)

1858, ink-on-linen drawing prepared at the request of the Quartermster Department, used in the examination and approval of the bunk for army use.

(Note, in the 1858 approval drawing, the reversal of the foot-trestle pieces as compared with the patent drawings.)

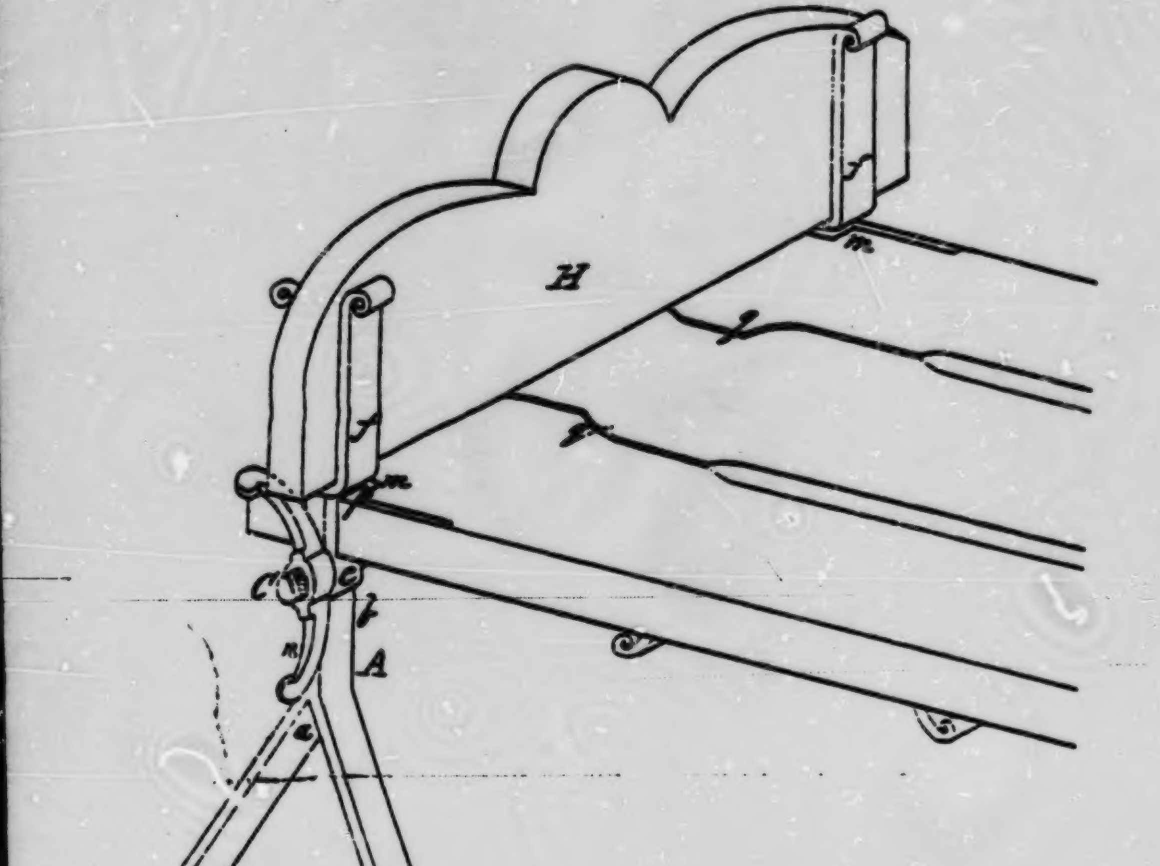
1858, Patent Sketch--Head End

No 20.435

W. B. Johns'

Impt in

Patente


H
f
f
m
m
g
g
C
b
A
m
a

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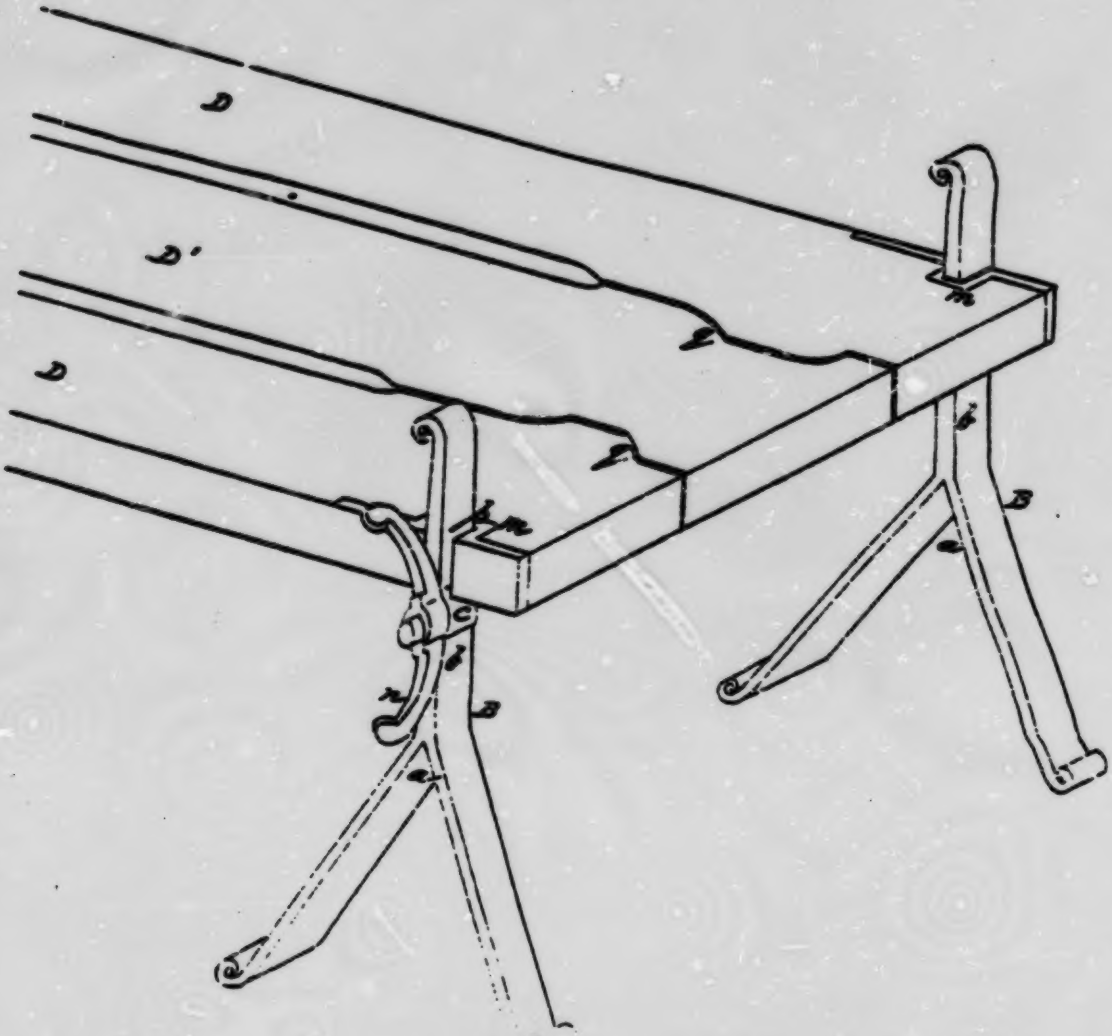
1858, Patent Sketch--Foot End

Bedsteads.

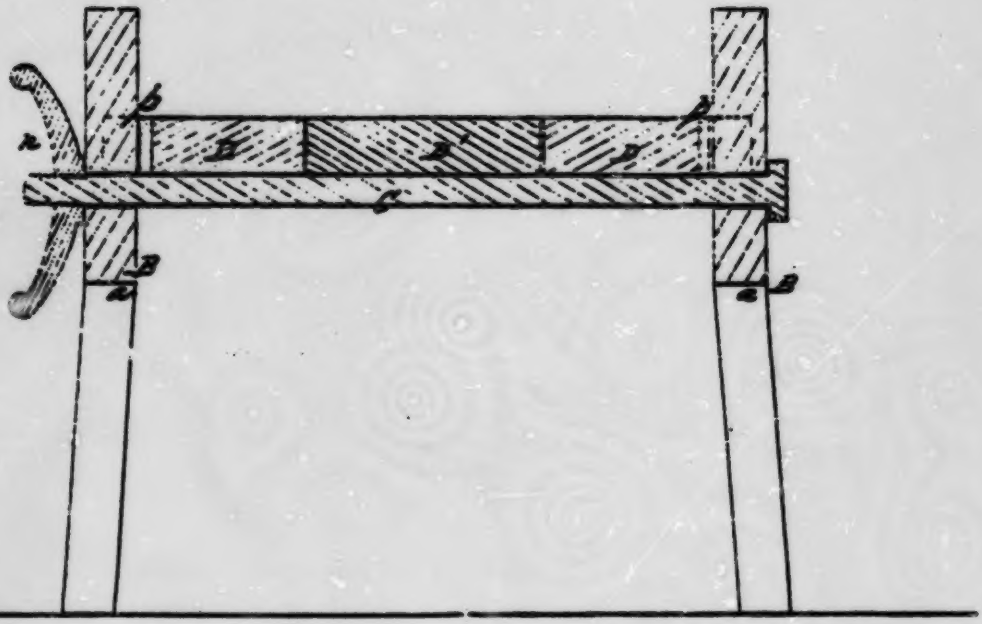
June 1. 1858.

Fig. 1.


D
D'
D
g
g
m
m
C
b
n
B
a
c
b
B
a

1858, Patent Sketch--Figure 2

Fig. 2.


p
x
D
D'
D
p
C
B
a
a
B

1858, Printed Patent Drawing--Reduced Size

N° 20.435

$150 **W. B. Johns'**

Imp.t in Bedsteads.

Patented June 1, 1858

CLASSIFICATION
20,435

Fig. 1

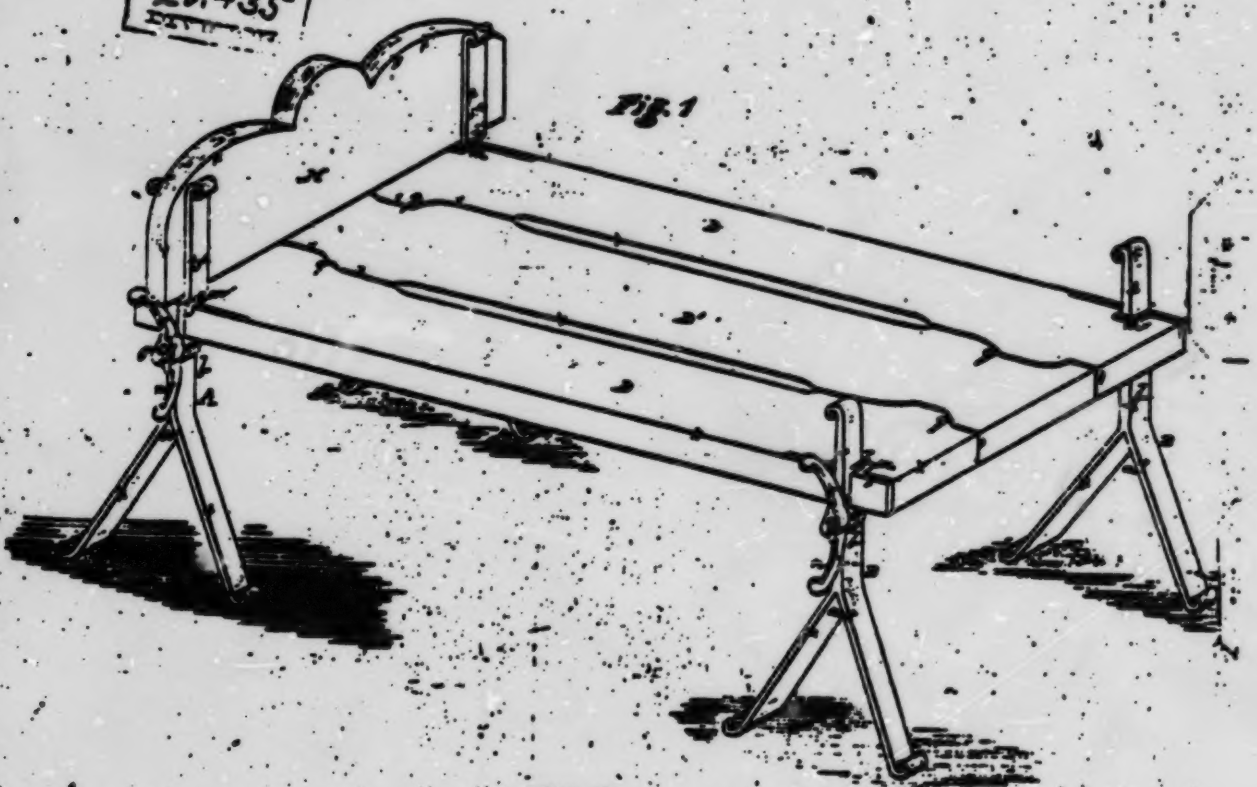
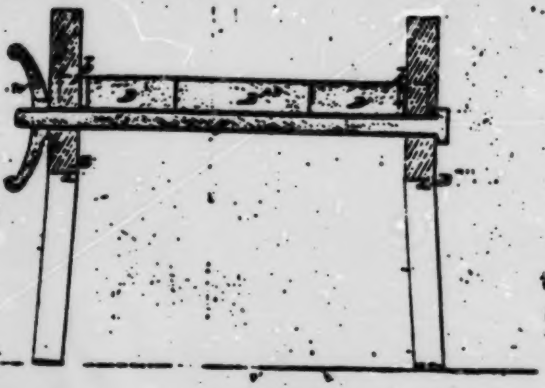


Fig. 2



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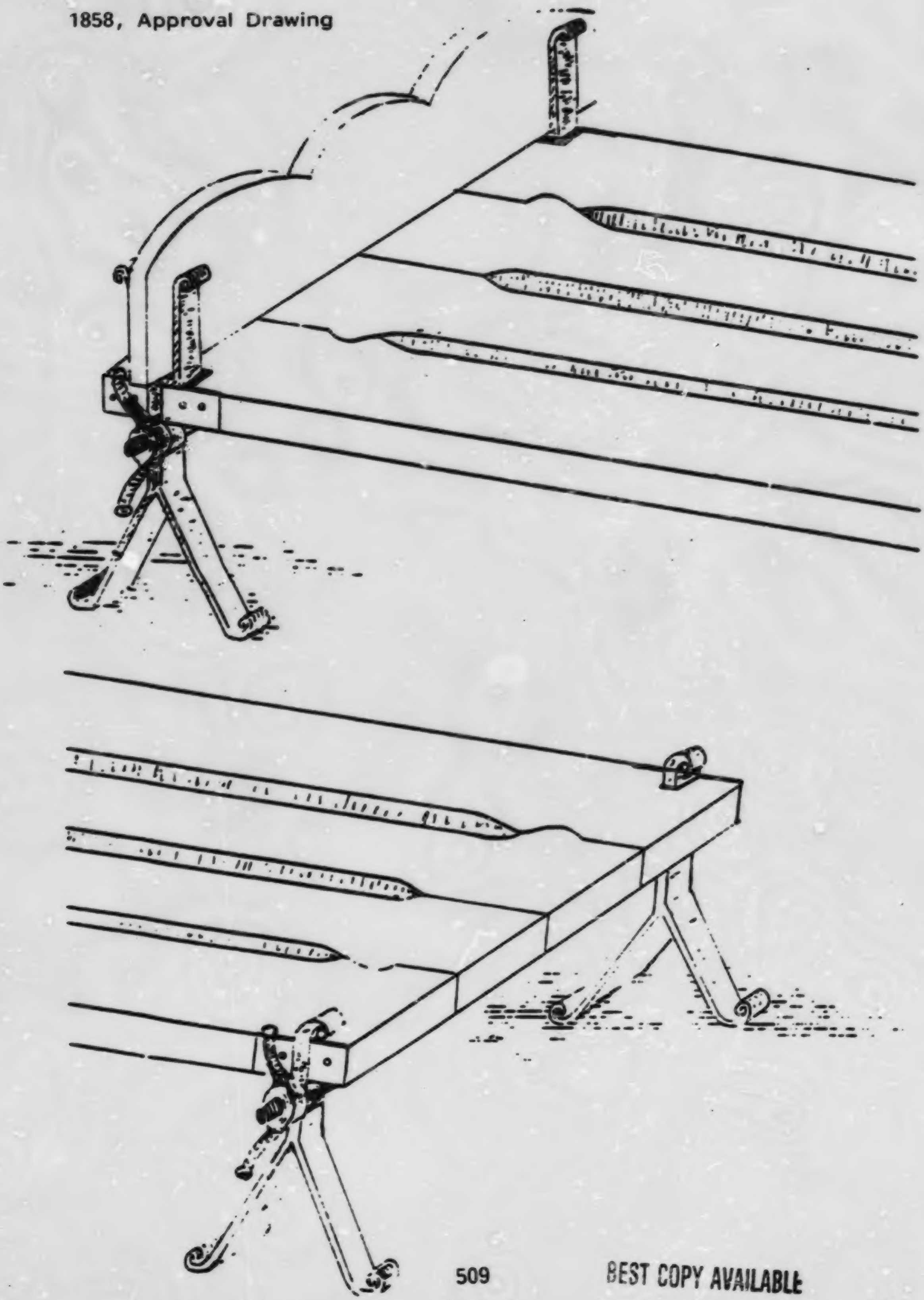
1858, Approval Drawing



APPENDIX F
THE BARRACK BUNK

The Barrack bunk was designed by Quartermaster General Meigs late in 1869; it combined features of several commercial models that had been offered to the Army. After a prototype was produced, and following some tinkering and testing, the bunk assumed its final form sometime in 1870 and went into production (probably under contract by Snead and Company of Louisville). Substantial numbers were distributed in fiscal 1871, including 4,000 sent to posts in Texas at Meigs' instructions. In June 1871 Meigs ordered a finished drawing produced and, together with the design of the Composite bunk, submitted it to the secretary of war for approval for general adoption throughout the Army. In September, after the secretary had approved, the Quartermaster Department advertised for bids to produce either the Barrack or the Composite bunk. A contract for over 4,000 of the Barrack model went to Snead in November 1871. Although no more were purchased after fiscal 1872, well over a third of all metal bunks in service in the Army in the 1870s were of the Barrack model. it had a design defect, however, and bolts were substituted for the screws securing the wood slats.

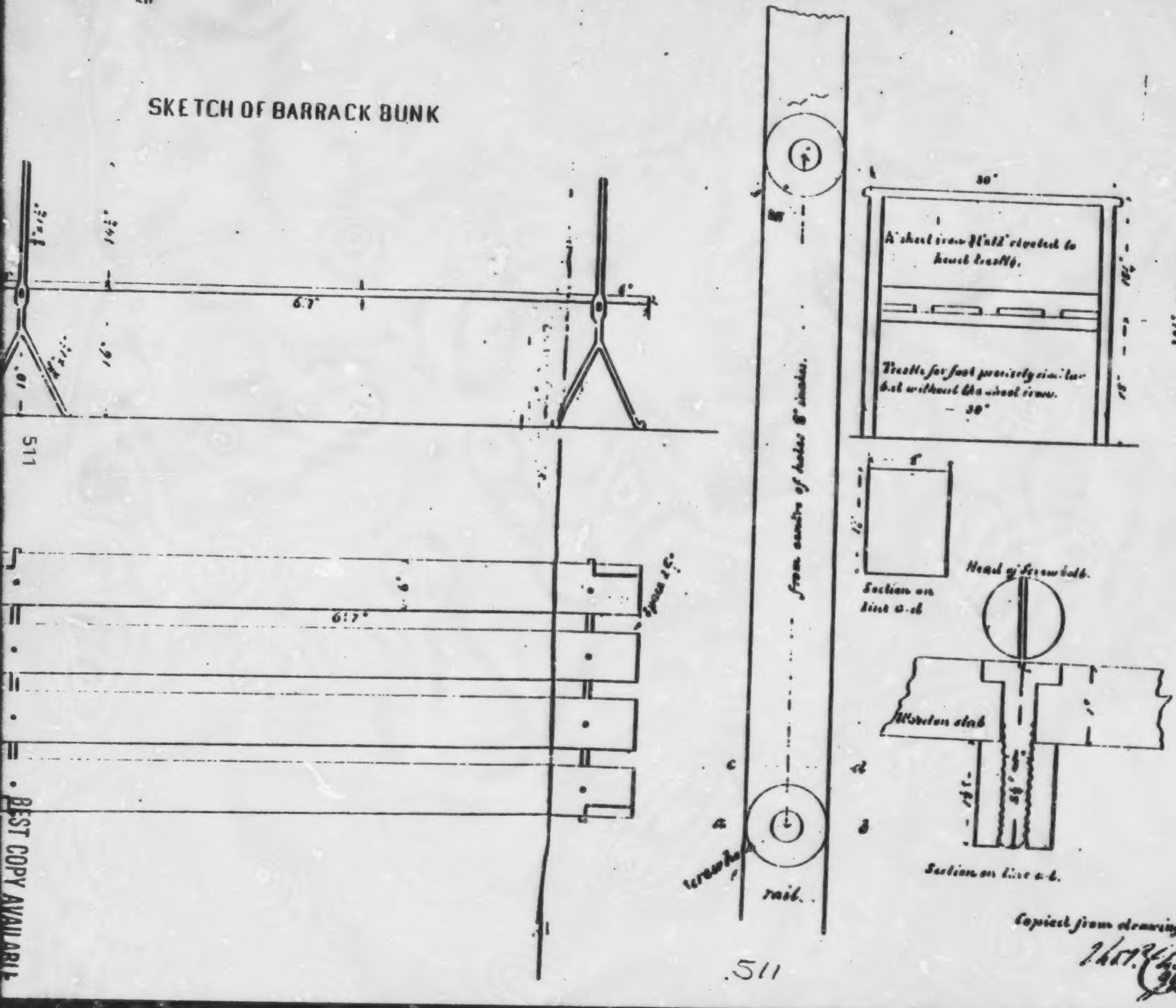
The drawings reproduced in this appendix (all from QMConF.ie--Bunks, RG92) document the form of the Barrack bunk in detail. They are, in order as follows:

1871, "Sketch of Barrack Bunk," submitted for the secretary's approval.

1871, drawing distributed to interested bidders and used as the contract specification in 1871 (despite the fact that it is labeled "1870," this drawing actually was printed and distributed in 1871). The last sheet is the endorsement on the file copy of the contract drawing, documenting the change from screws to bolts in 1872.

SKETCH OF BARRACK BUNK

1871, Approval Drawing--Reduced


6'7"
6"
6'7"
spaces 1½"
from centre of holes 8" inches
c
d
a
b
screw head
rail.
30"
¼" sheet iron 3¼"x12" riveted to head trestle.
Trestle for foot precisely similar but without the sheet iron.
30"
8"
Section on line c-d
Head of screw bolt.
Wooden slab
Section on line a-b.

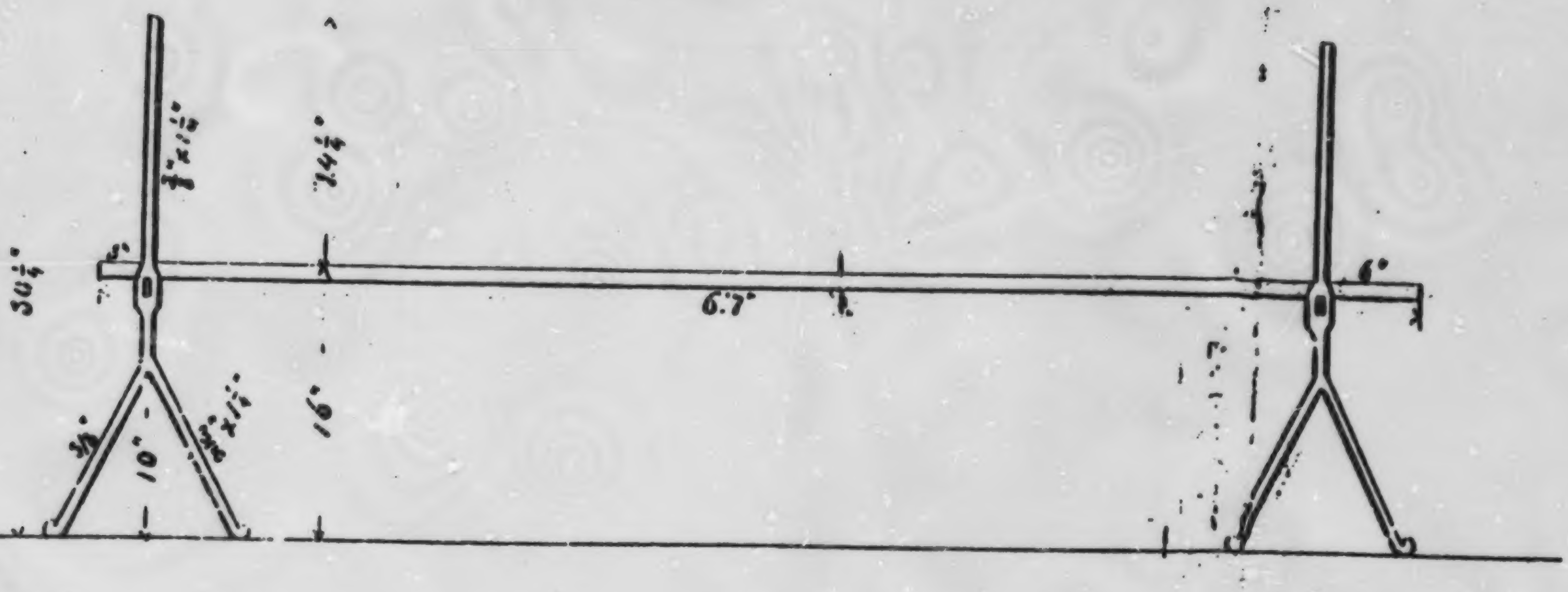
511

Copied from drawing in Q.M.G.O.

.511

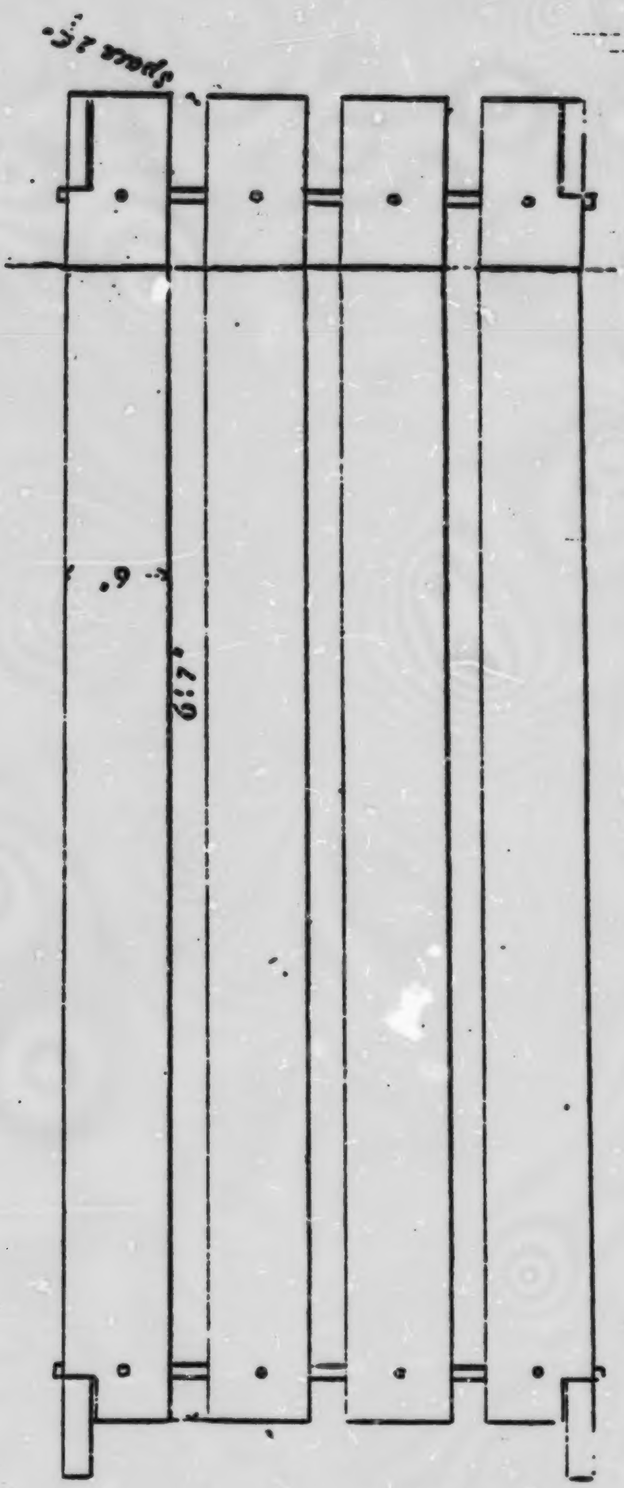
1871, Approval Drawing

SKETCH OF BARRACK BUNK

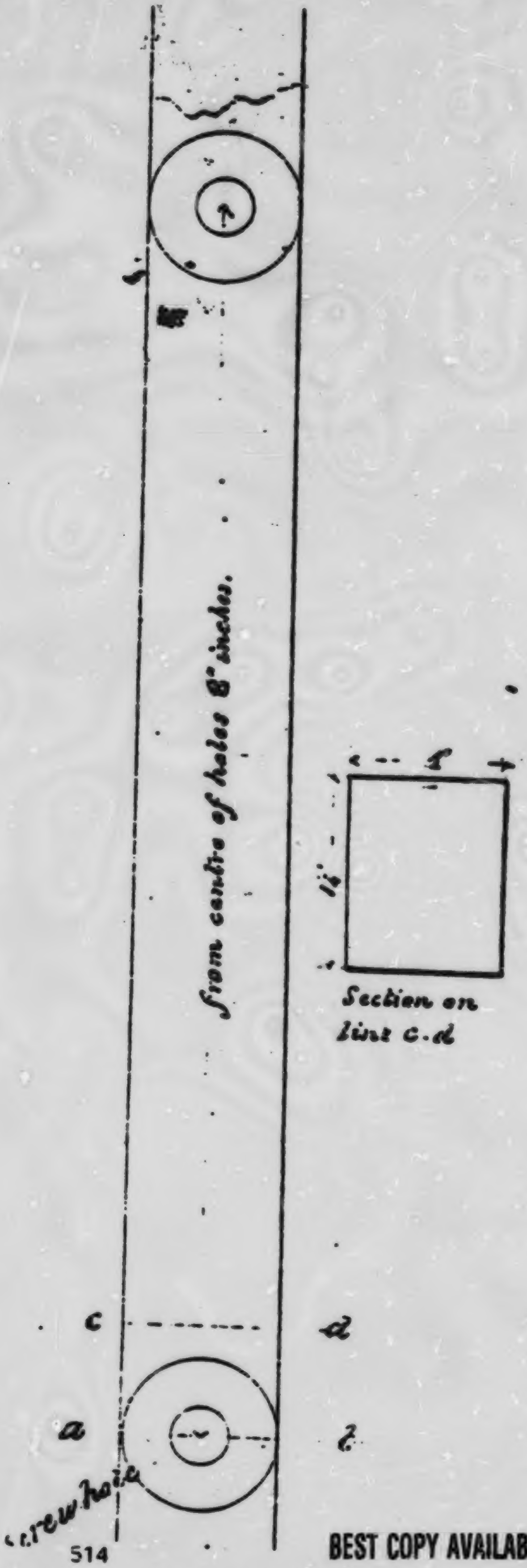


30¼"
⅞"x1½"
14¾"
6'7"
6"
16"
10"
3½"
¾"x1½"

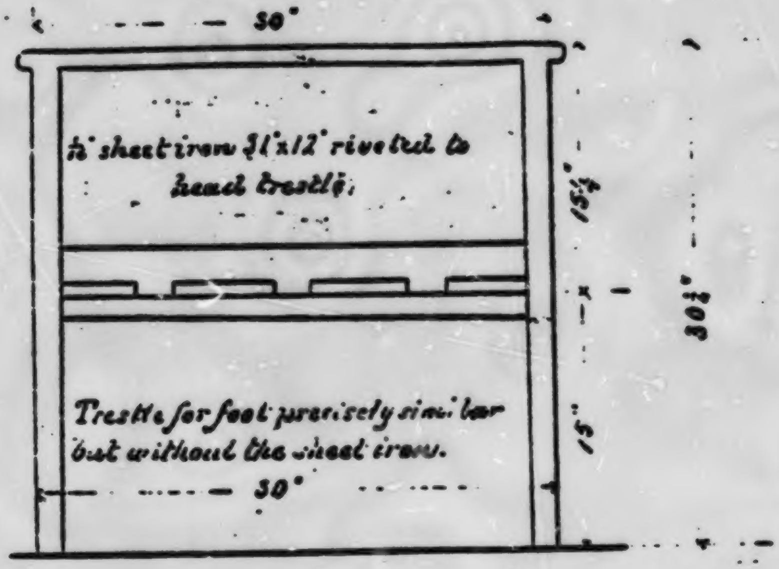
1871, Approval Drawing

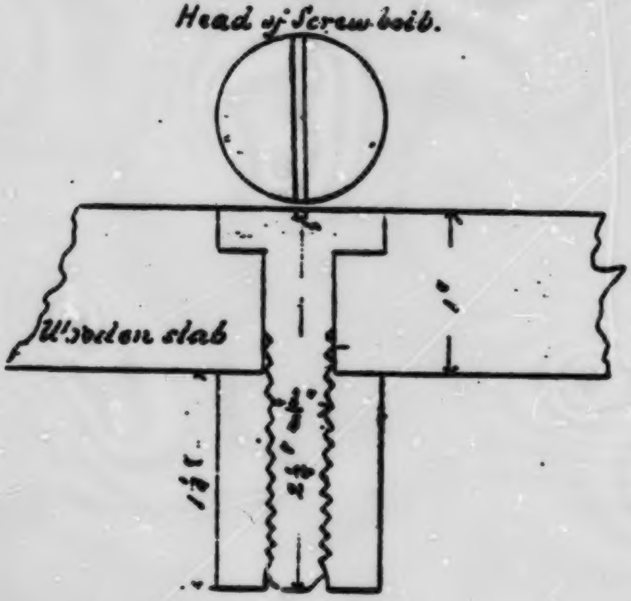

Space 1½"
6"
6' 7"

1871, Approval Drawing


from centre of holes 8" inches.
1"
1¼"
Section on line c.d
c
d
a
b
screw hole

1871, Approval Drawing


30"
½" sheet iron 31"x12" riveted to head trestle.
15¼"
30¼"
1"
15"
Trestle for foot precisely similar but without the sheet iron.
30"


Head of Screw bolt.
Wooden slab
1"
1½"
2¼"

Section on line a-b.

Copied from drawing in Q.M.G.O. by

June 22/71

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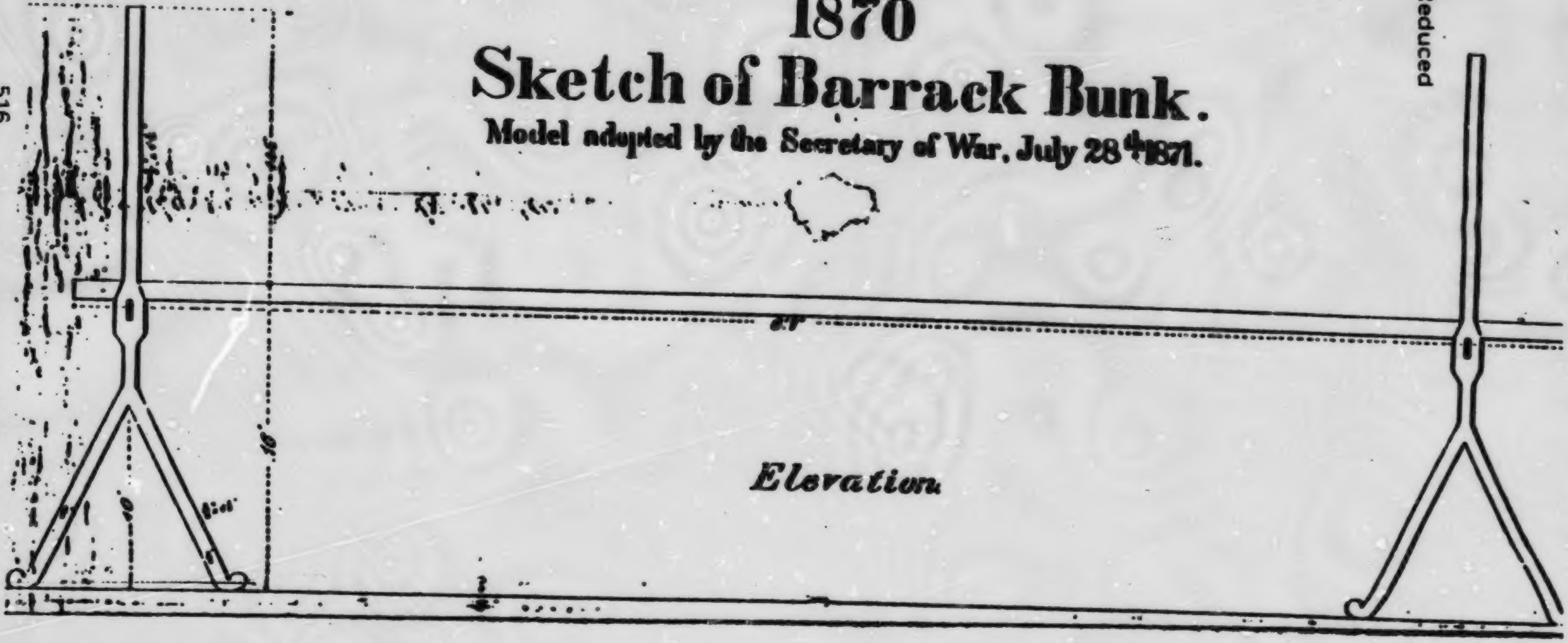
1871, Contract Drawing--Reduced

1870
Sketch of Barrack Bunk.

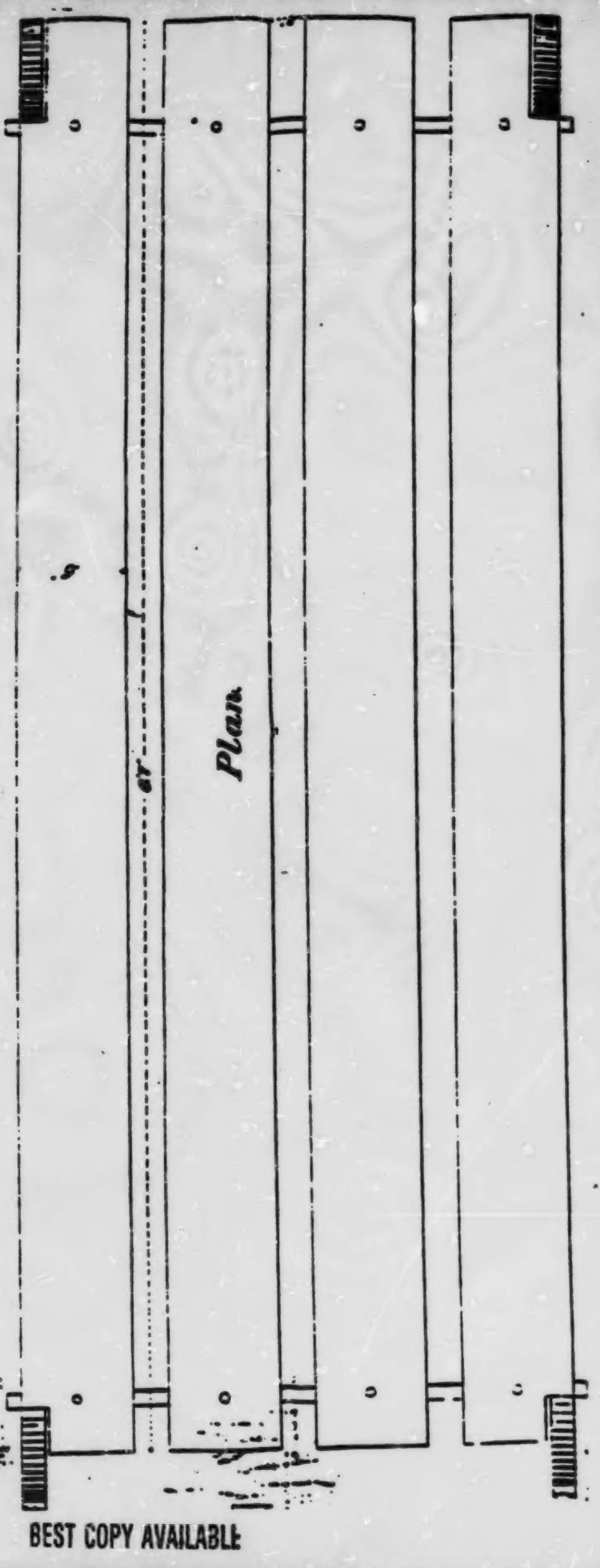
Model adopted by the Secretary of War, July 28th 1871.



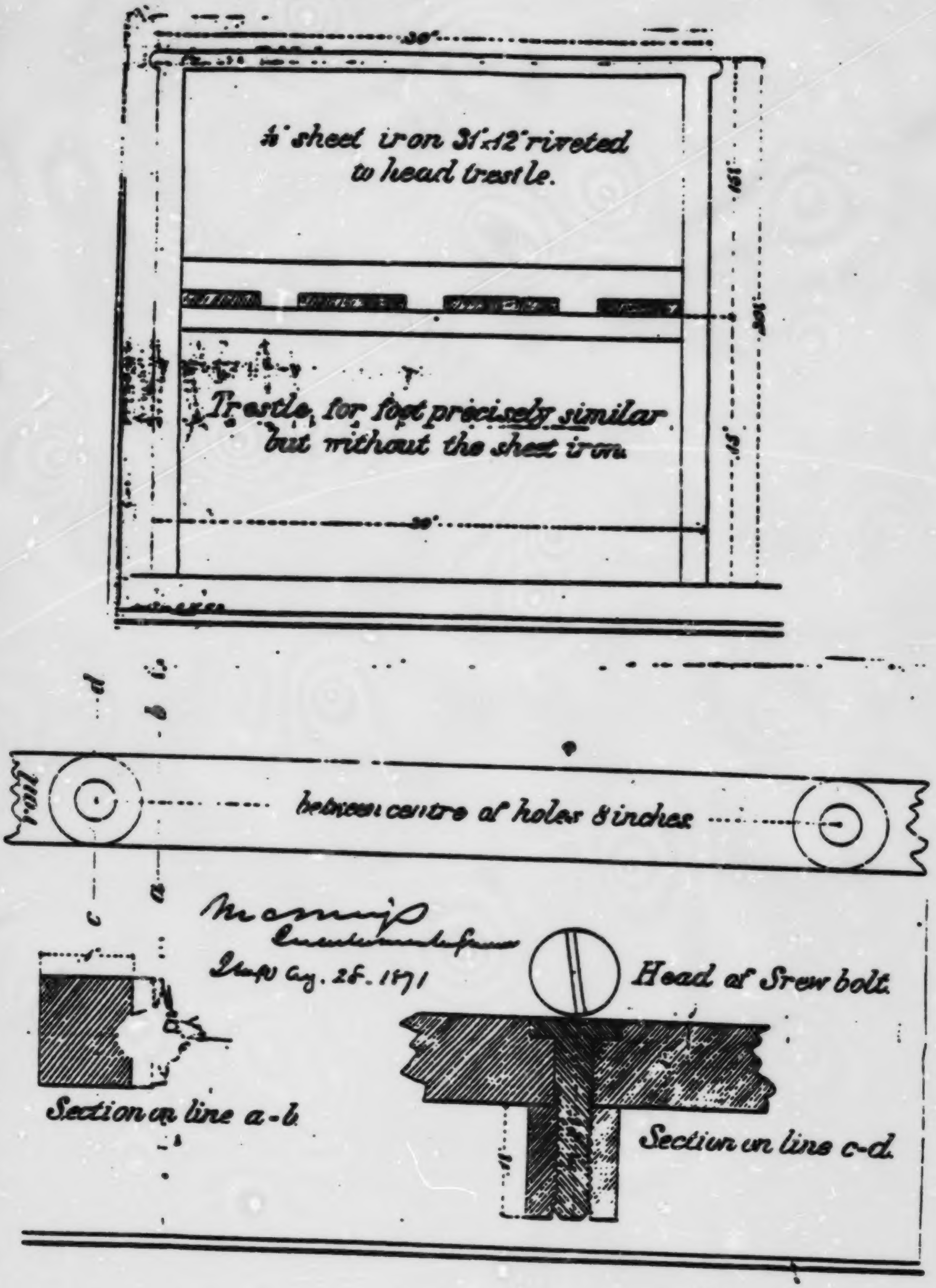
516

516

1871, Contract Drawing--Reduced



1871, Contract Drawing--Reduced

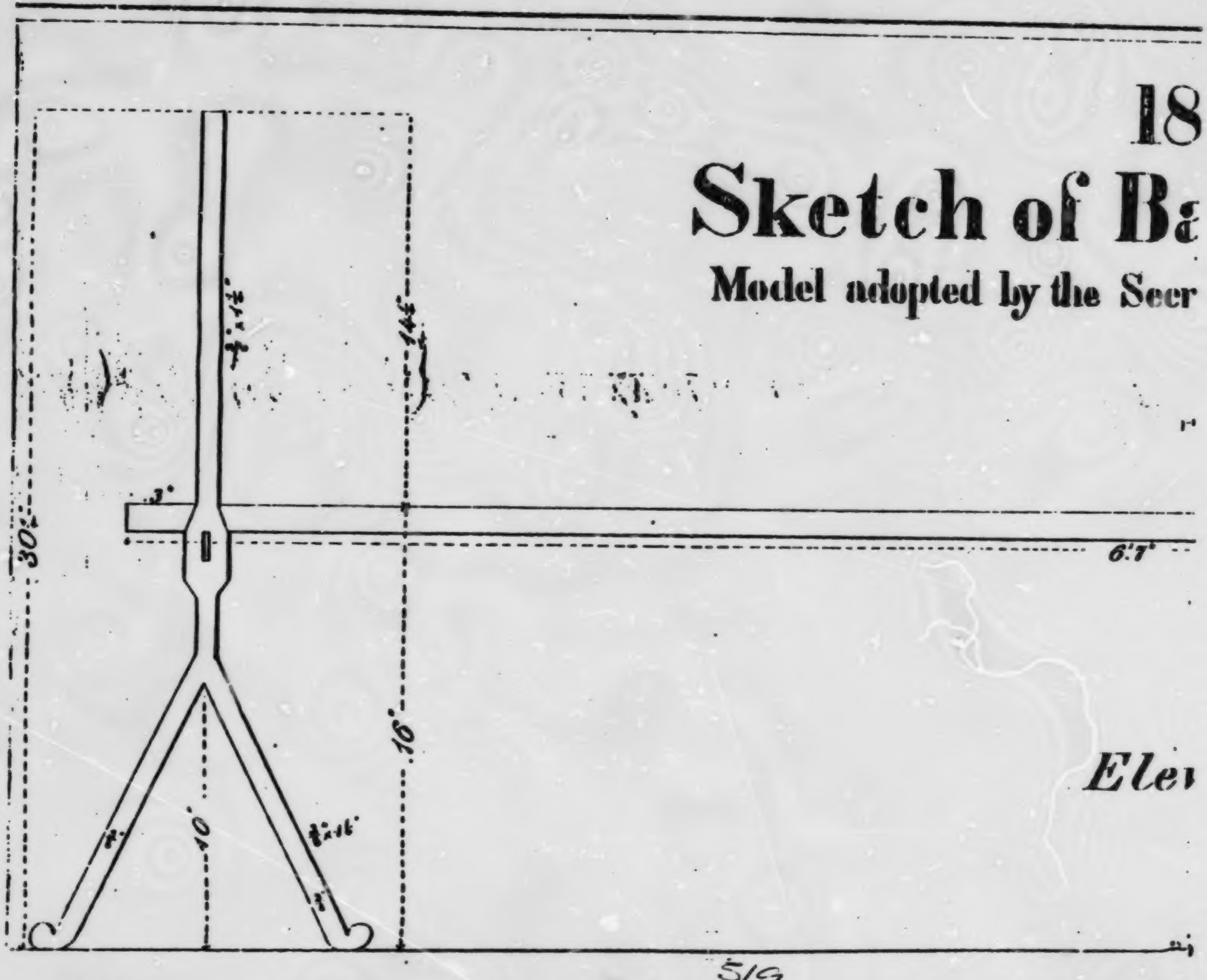

30"
1/16" sheet iron 31"x12" riveted to head trestle.
15"
30"
Trestle for foot precisely similar but without the sheet iron.
15"
30"
d
b
between centre of holes 8 inches
c
a
Dated Ag. 28. 1871
Head of Screw bolt.
Section on line a-b
Section on line c-d.

1871, Contract Drawing

18

Sketch of B

Model adopted by the Secr


3'
30'
14'5
6.7'
16'
10'
4'
Elev

519

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519

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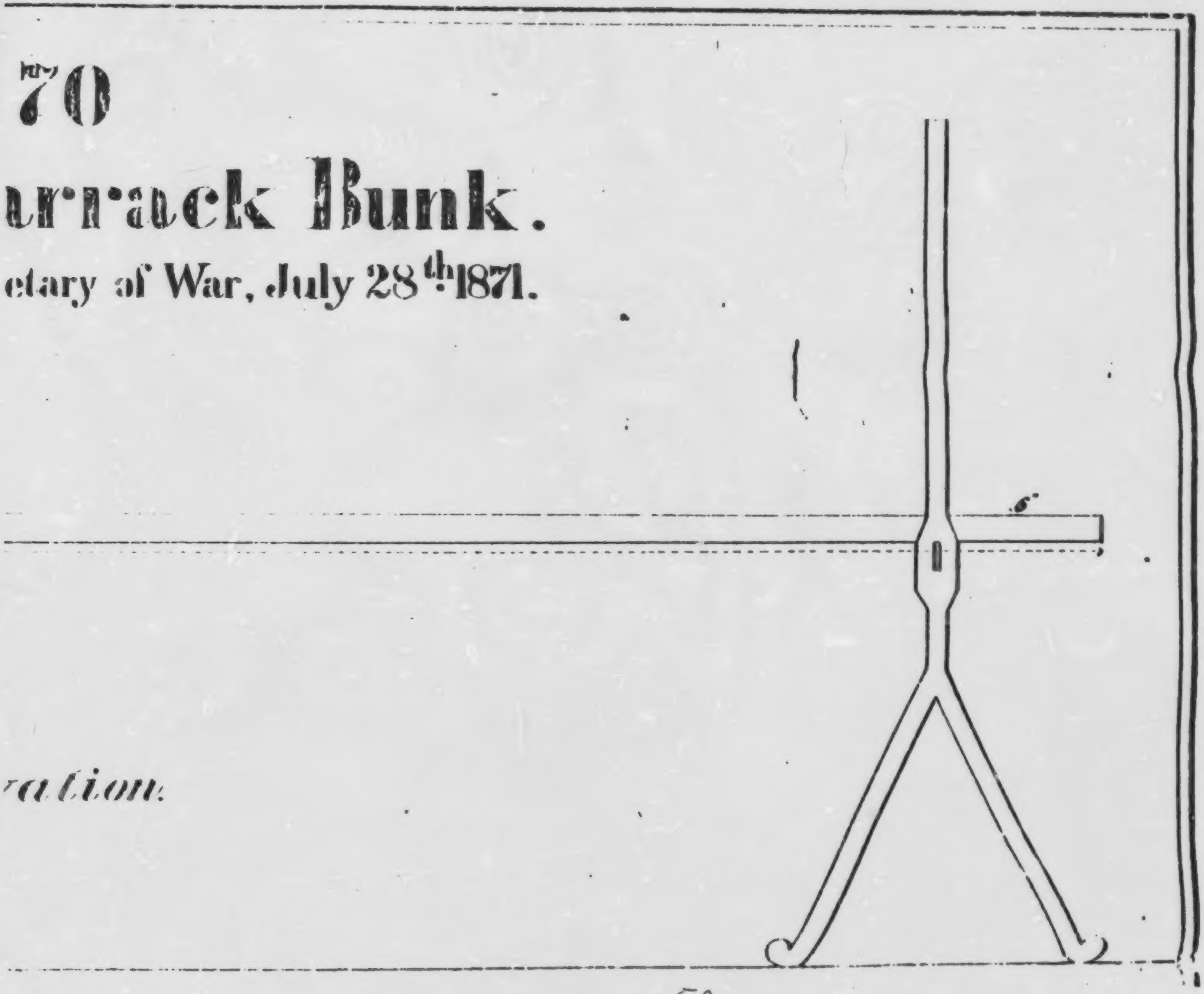


70

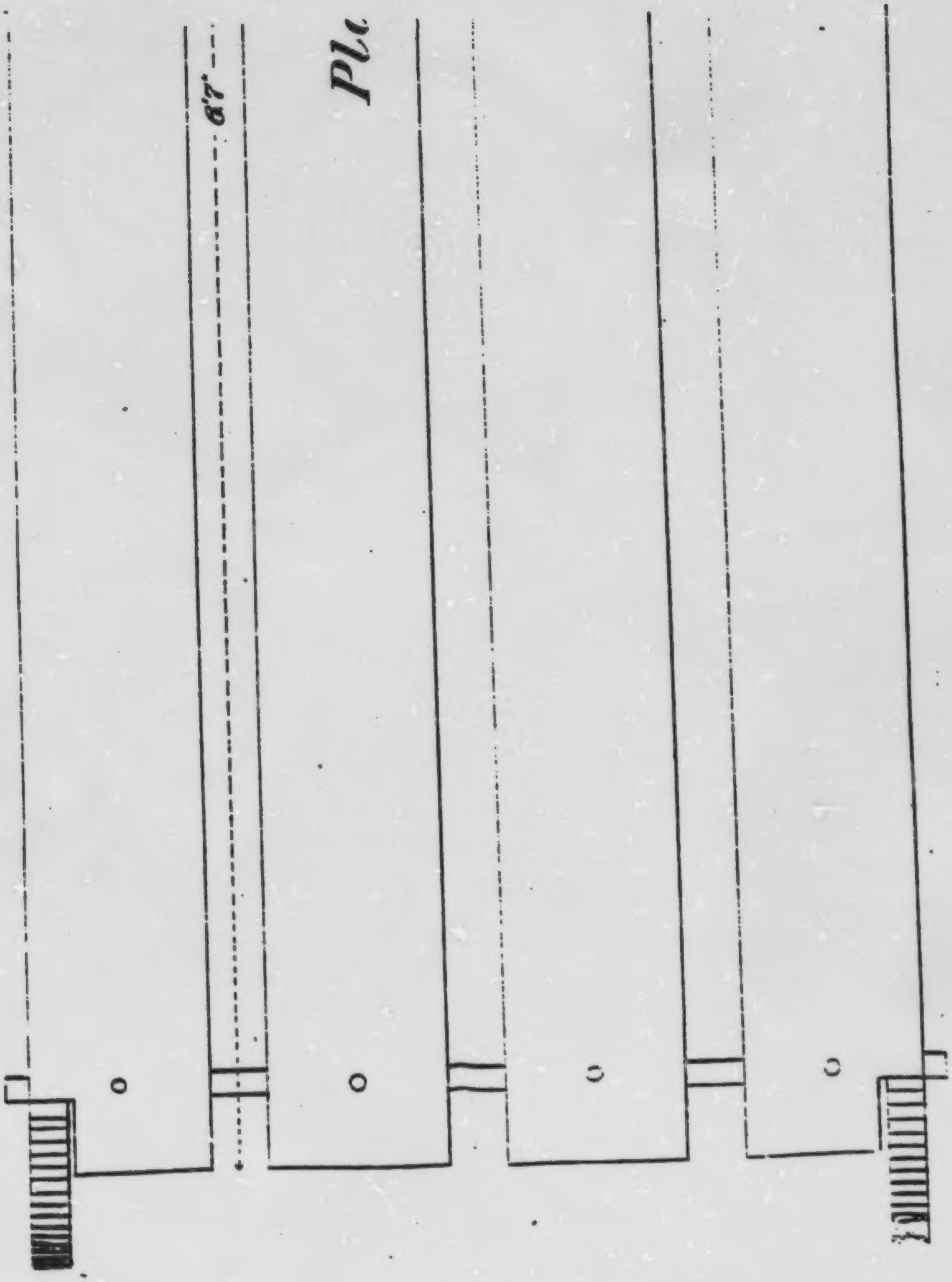
urrack Bunk.

etary of War, July 28th 1871.

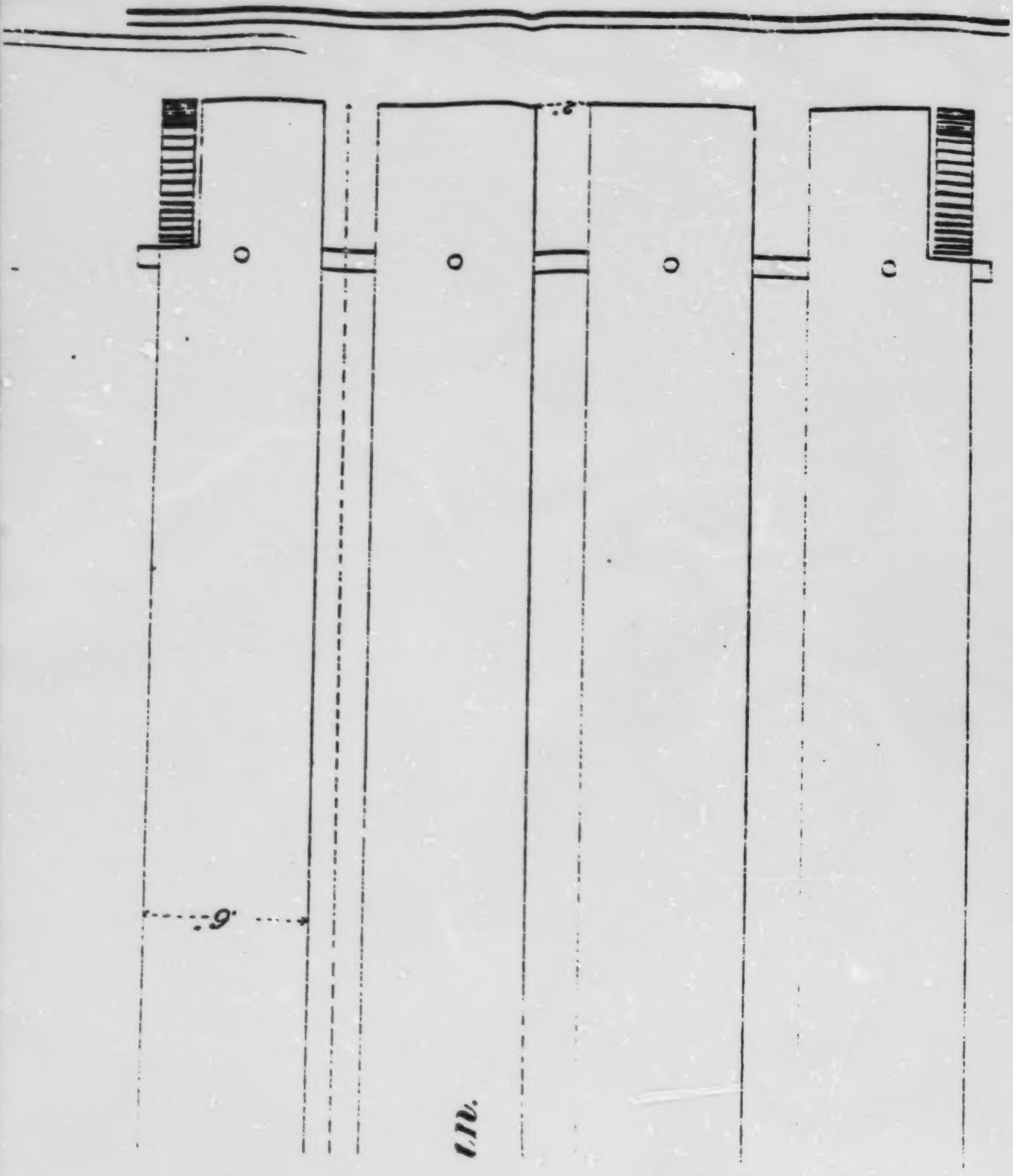
vation

1871. Contract Drawing

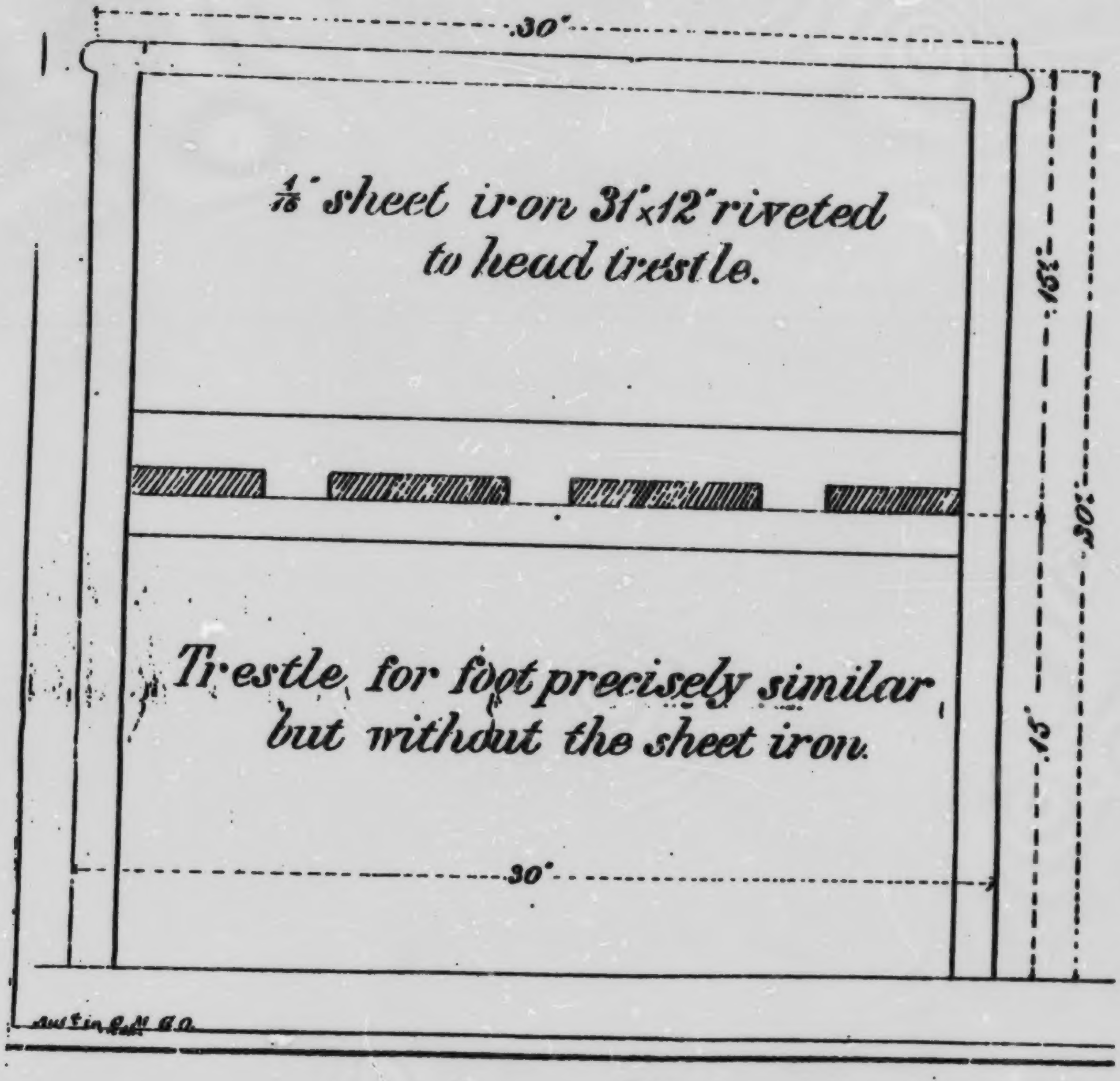
1871, Contract Drawing



1871, Contract Drawing



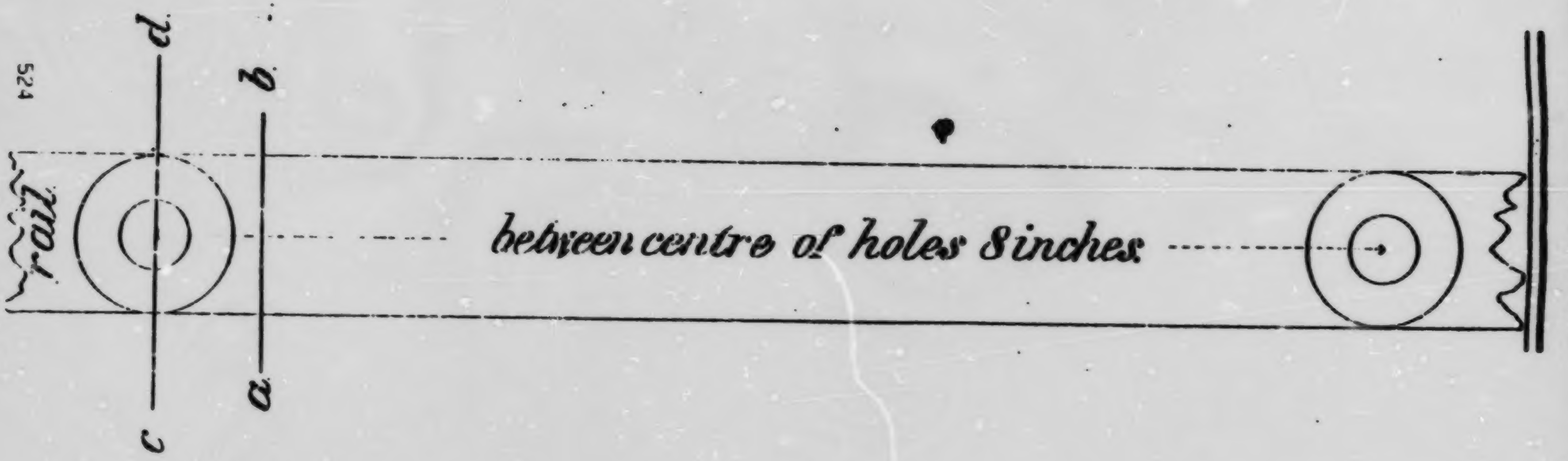
1871, Contract Drawing



$\frac{1}{16}$" sheet iron 31"×12" riveted to head trestle.

Trestle for foot precisely similar but without the sheet iron.

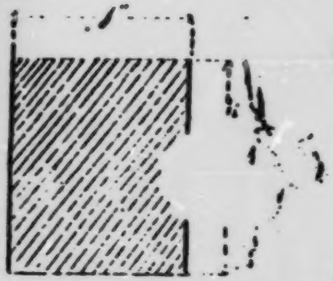
1871, Contract Drawing


d
b
a
c
between centre of holes 8 inches

524

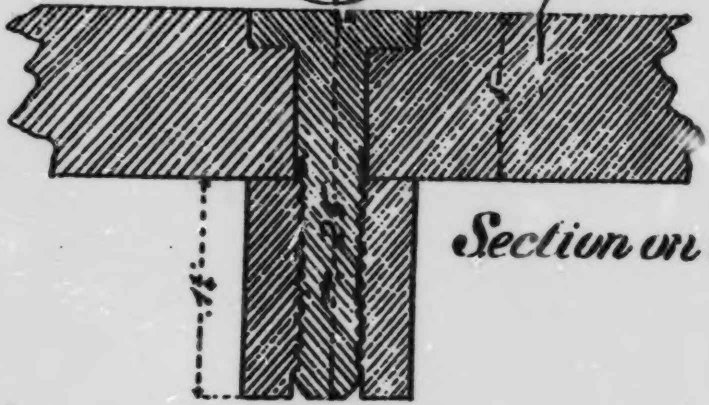
524

M C Meigs
Quartermaster General
Q.M.G.O. Aug. 28. 1871



Section on line a-b.

Head of Srew bolt.



Section on line c-d.

APPENDIX G
THE COMPOSITE BUNKS

The bunks manufactured by the Composite Iron Works Company of New York accounted for the majority of manufactured bedsteads supplied in barracks during the 1870s and 1880s. But the history of its products is confused by the company's design changes and circulation over the years of a number of flyers, each of which appeared to illustrate the one existing model of the Composite army bunk. In the late 1860s the company produced, in single and two-story versions, a bunk with straight gas-pipe legs, braced by iron rods secured in chilled castings. There is no record that the Army bought any of the two-story models, but during fiscal 1871 over 3,000 of the bunks were purchased for various posts. The Composite bunk enjoyed favor in the Army, so in the summer of 1871 it was adopted as an alternate to the Barrack bunk. When supply contracts were solicited in September 1871, separate drawings of both bunks were distributed, and bidders were invited to offer either. The drawing of the Composite bunk, however, showed an error in the length of the legs; that was corrected by published notice.

But the company's contract proposal was not for that bunk, but for a new model. The gas pipe was gone, replaced below the bed with wrought-iron legs evoking the Y-shaped legs of the Barrack (and Johns) bunk--a clear improvement from Meigs' point of view, since the new version was stackable. The upper works were of iron rods, with end braces secured in the middle with a shield bearing the national intitials. In November 1871 the first of several contracts for the new bunk--which the company soon dubbed No. 9--were let. From fiscal 1873 through fiscal 1875, it was the only manufactured bedstead purchased by the Army for barracks use.

Shortly after getting the fiscal 1873 contract, the company tried without success to change the design of the bunk by eliminating corner bracing rods and substituting an additional chill in place of the shield. That was rejected out of hand by Meigs, but the company nonetheless published a new flyer--for a new bunk labeled No. 10--that asserted falsely that the new design had been adopted by the War Department in 1873 On the contrary, when specifications were finally published for iron bunks in 1876, they were for the original configuration of No. 9 (none were published for the Barrack model, incidentally, so it would seem that further purchases were no longer regarded as even possible for that model).

Purchases of bunks may have ceased, or been only incidental, after fiscal 1876. They probably resumed in fiscal 1880, however, and the evidence is that Composite bunks supplied to barracks thereafter were of the new No. 10 model, despite the fact that it did not conform to the 1876 specifications. The shorter, simpler No. 10 bunks appear in several barracks photographs of the 1880s and 1890s. But there is no reason to believe that any were in place before 1880 or 1881.

The drawings presented in this appendix (all from QMConFile--Bunks, RG92) illustrate the history of the Composite bunks. They include the following in order:

The (presumably) first advertising flyer submitted for the Quartermaster Department's consideration.

A true copy of the foregoing, annotated by the company's president at the department's request, giving technical details on the bunk's construction.

The drawing distributed in September 1871 during solicitation for the fiscal 1872 contracts. Note here the error and correction. Bunks of this pattern were purchased during fiscal 1871, before the major contracts were solicited.

The (presumably) first flyer published by the company for No. 9. This was the bunk model purchased from fiscal 1872 (November 1871) on, and the one covered by the 1876 specification.

The (presumably) second flyer published by the company for No. 9. Aside from the rearrangement of the illustrations, the most noteworthy feature of this flyer was the illustration of the mosquito-bar attachment.

The first flyer published by the company for No. 10. Although this document asserts that the new design had been adopted by the War Department, that was not the case. The receipt-date stamp suggests that the department may have resumed shopping for iron bedsteads in fiscal 1880, which began shortly after the flyer was received. Since Composite held a monopoly in its price range (there is no record of Coyle's trying to market to the Army at that time), the Army may simply have had to accept Composite's new model, hang the regulations. The company obviously had no interest in producing the earlier version.

The specifications for iron bunks adopted in 1876 (from AROMG 1877).

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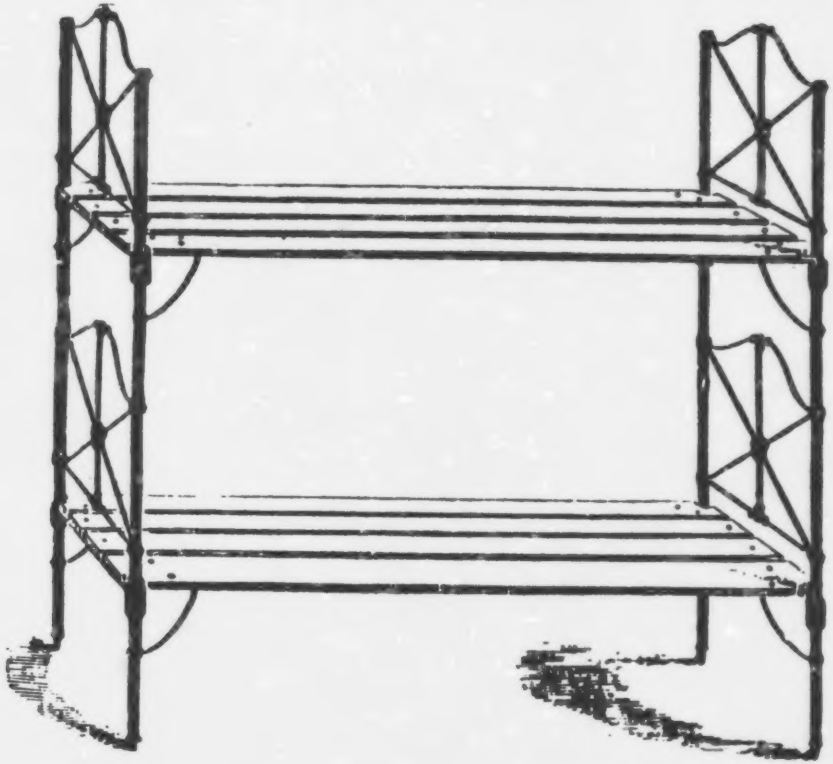
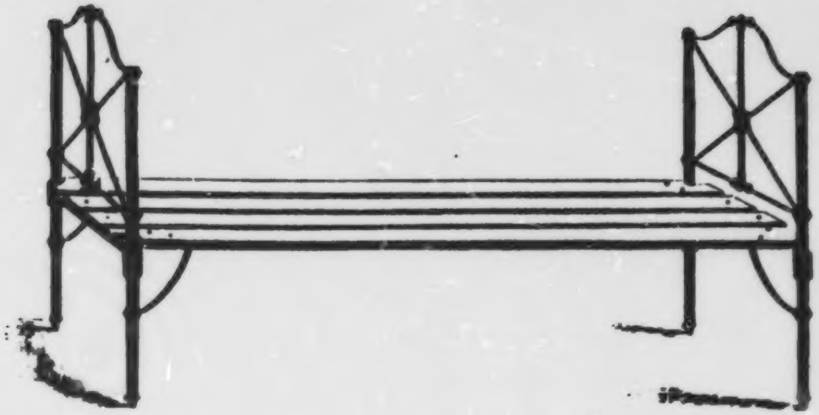
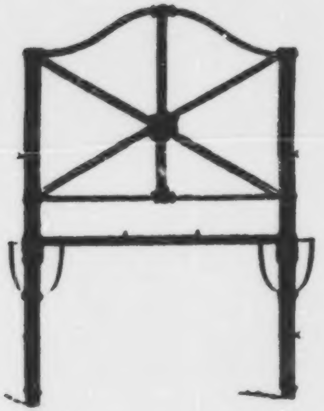
First Advertisement

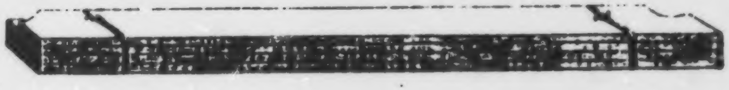
Composite Chilled Iron U. S. Army Bunk Bedstead. Patented.



First Advertisement





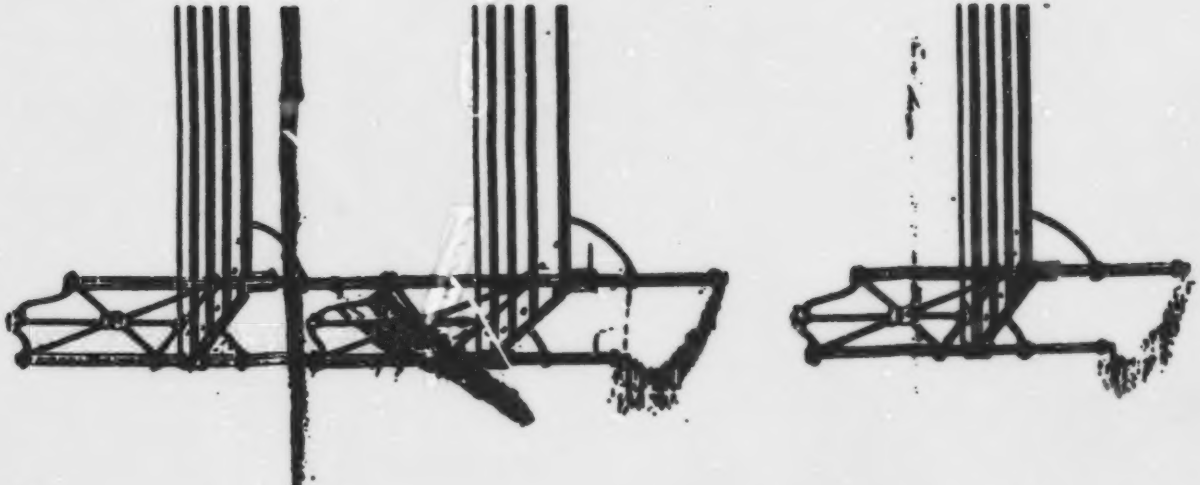


Composite Iron Works Co., 109 Mercer Street, New-York.

Entered according to Act of Congress, in the year 1851, by the COMPOSITE IRON WORKS COMPANY in the office of the Librarian of Congress at Washington.

530

Composite Chilled Iron U. S. A



The Standards or Posts of this Bunk are of Gaspipe. The braces are of wrought iron ~~and~~ tied together with chilled iron.

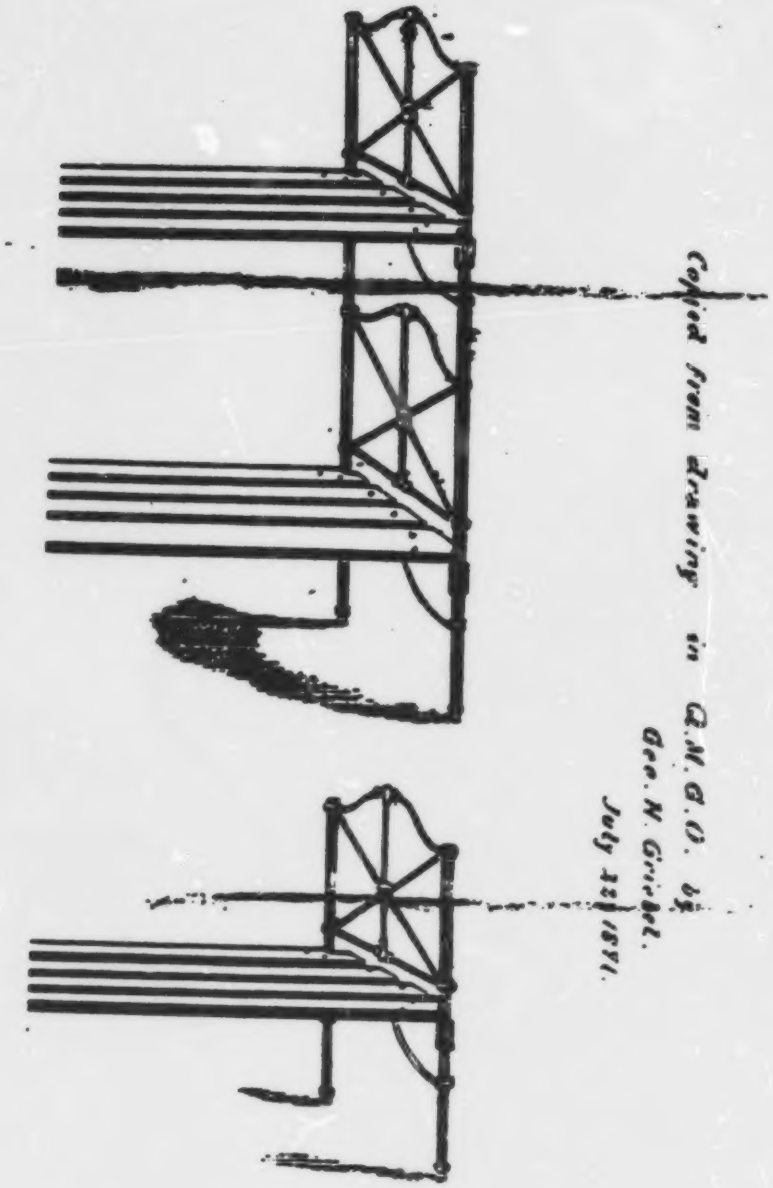
Any further Information required, at any time, will be cheerfully furnished by the Company

Ira. Hutchinson. Presdt.

Annotated Advertisement Copy

Annotated Advertisement Copy

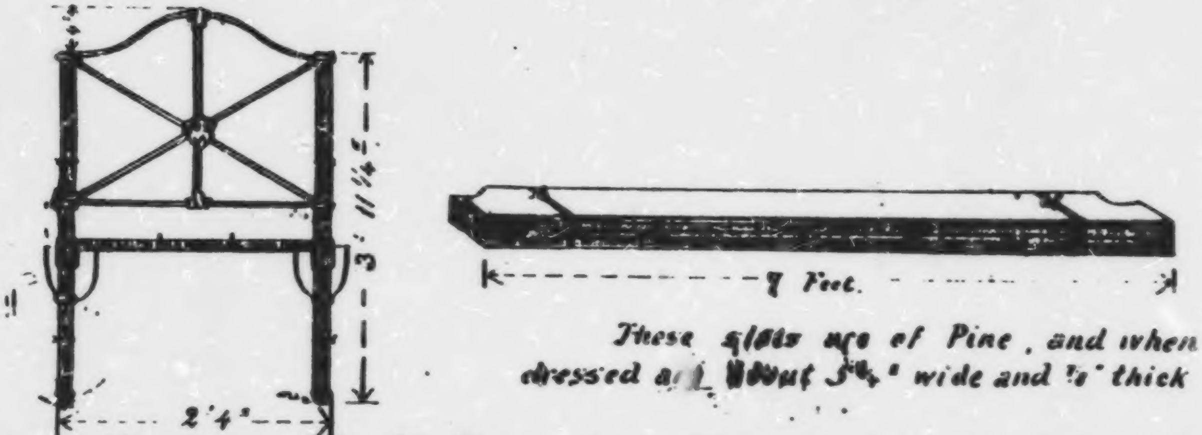
rmy Bunk Bedstead. Patented.



Copied from drawing in Q.M.G.O. by
Geo. N. Griebel.
July 22 1871.

Annotated Advertisement Copy

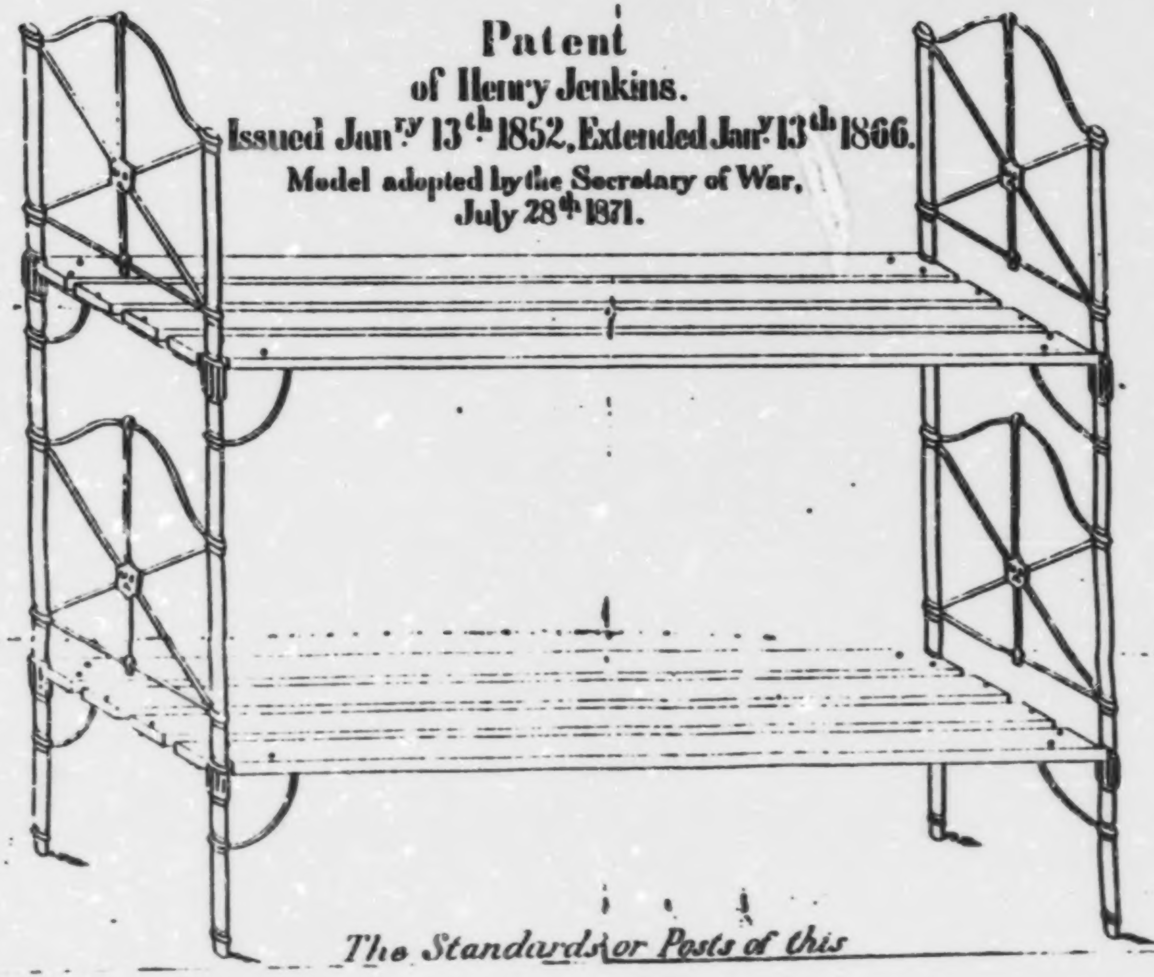
533



These slats are of Pine, and when dressed are about 3¼" wide and ½" thick

Composite Iron Works Co., 109 Mercer Street, New-York.

Composite Chilled Iron U.S. Army Bunk Bedstead.



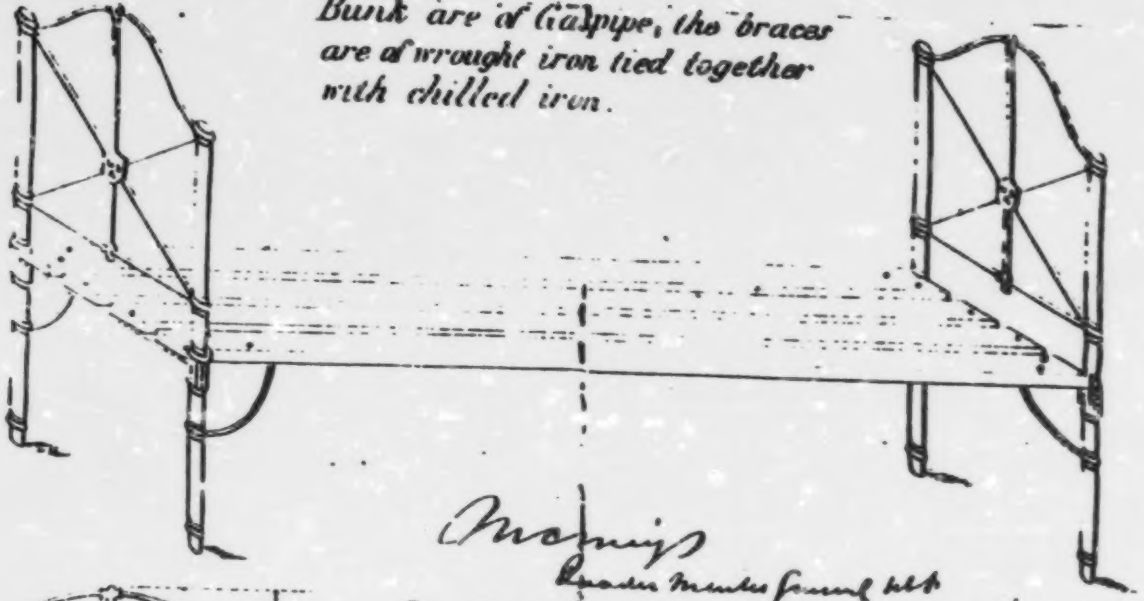
Patent
of Henry Jenkins.
Issued Jan.ry 13th 1852, Extended Jan.y 13th 1866.
Model adopted by the Secretary of War,
July 28th 1871.

The Standards or Posts of this

1871 Contract Drawing-Reduced

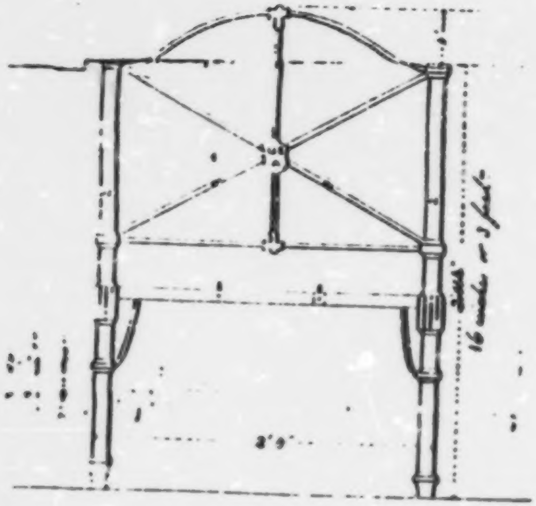
BEST COPY AVAILABLE

Bunk are of Gaspipe, the braces are of wrought iron tied together with chilled iron.

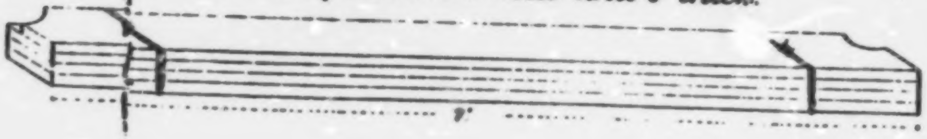


M C Meigs
Quarter Master General USA

Aug 28. 1871
Q.M.G.O.



These slats are of Pine, and when dressed are about 5¼" wide and 1" thick.



1871 Contract Drawing--Reduced

Composite Chilled Iron U.

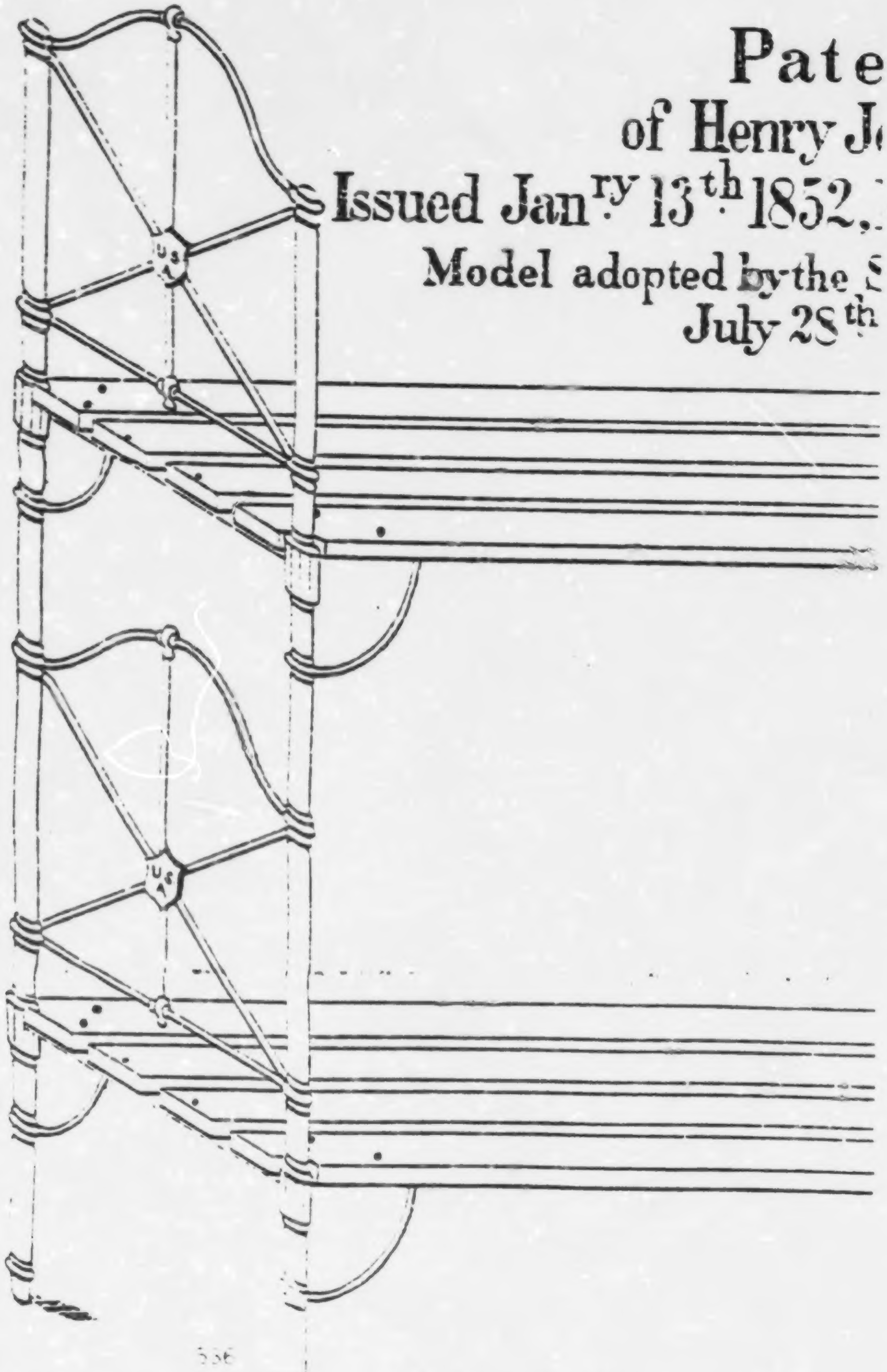
Pate

of Henry J

Issued Janry. 13th. 1852,

Model adopted by the

July 28th



Contract Drawing

S. Army Bunk Bedstead.

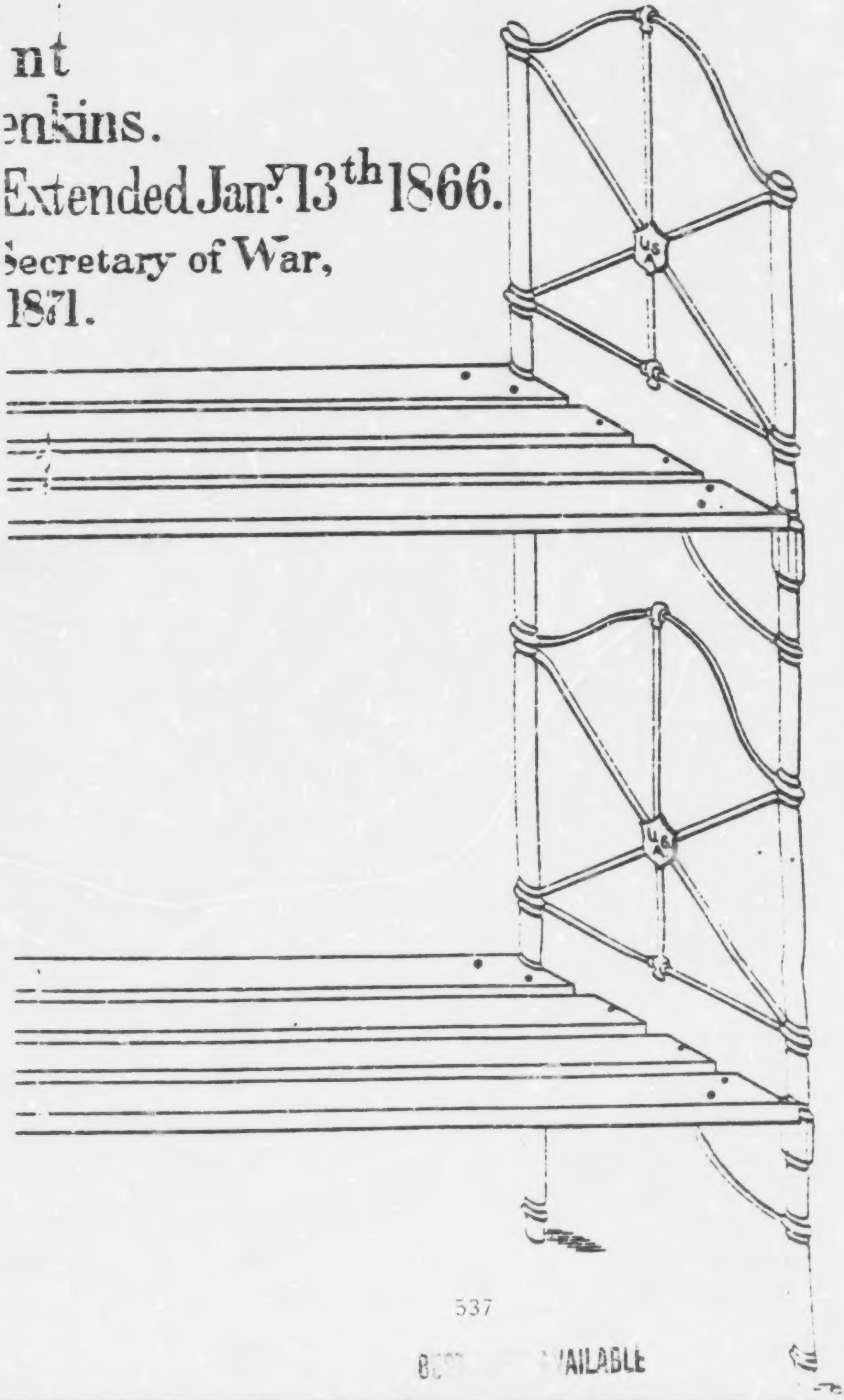
nt

enkins.

Extended Jan.y 13th 1866.

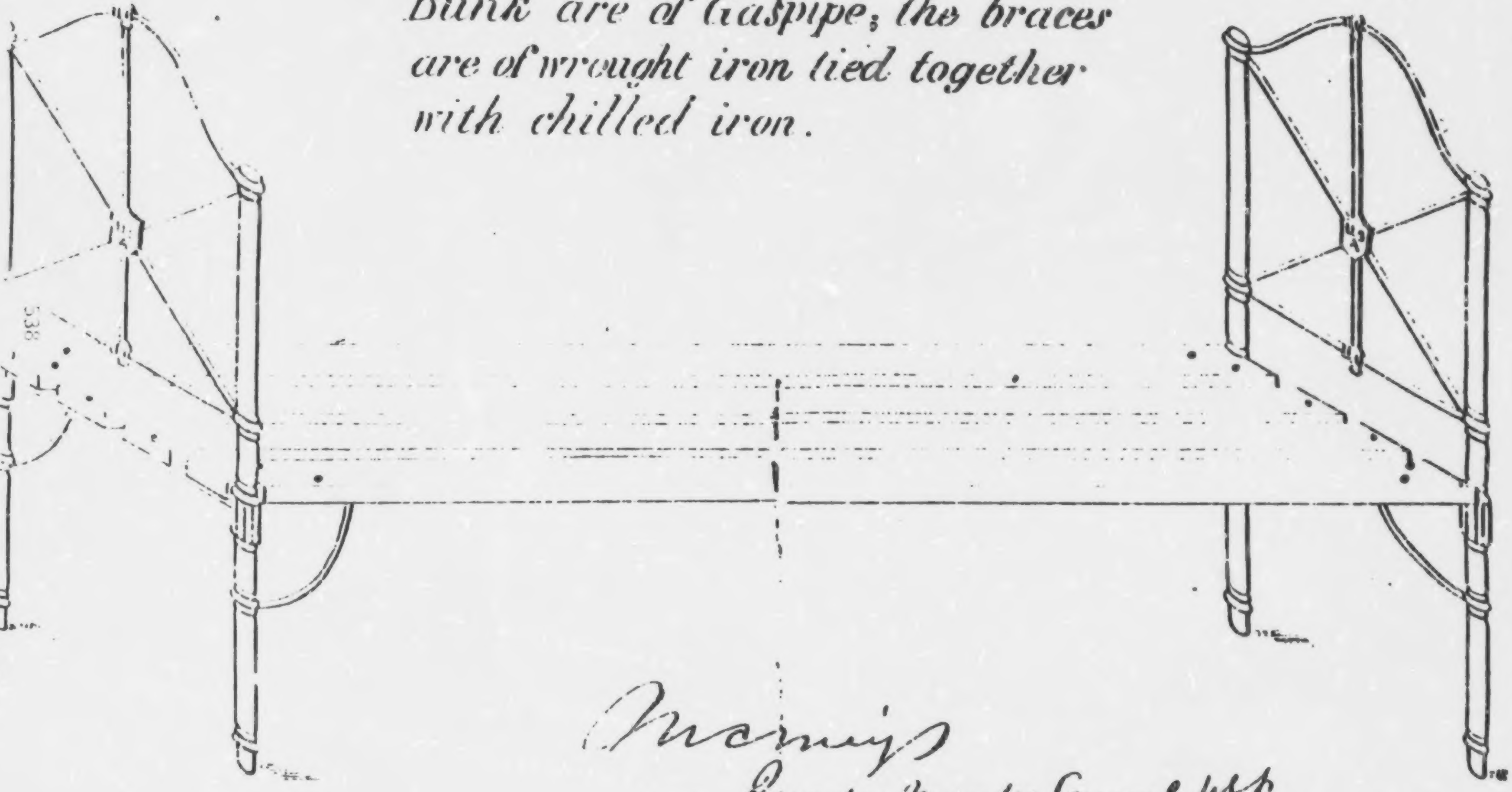
Secretary of War,

1871.



BEST [illegible] AVAILABLE

The Standards, or Posts of this Bunk are of Gaspipe; the braces are of wrought iron tied together with chilled iron.

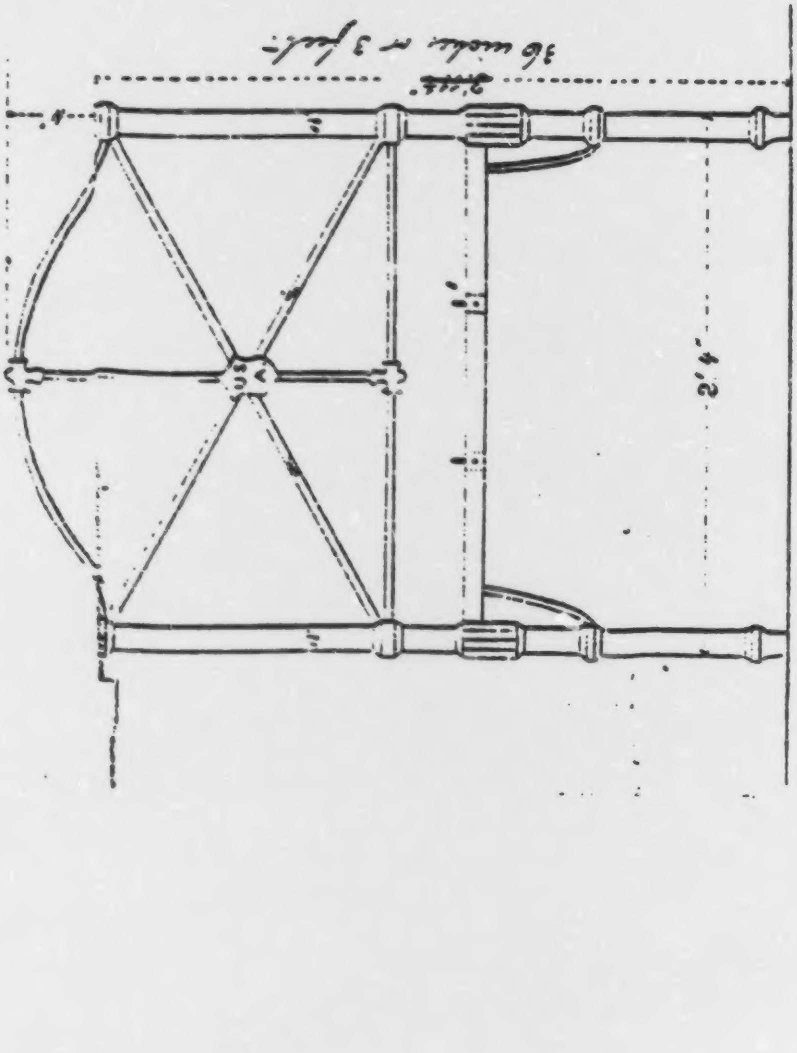


M C Meigs
Quarter Master General USA

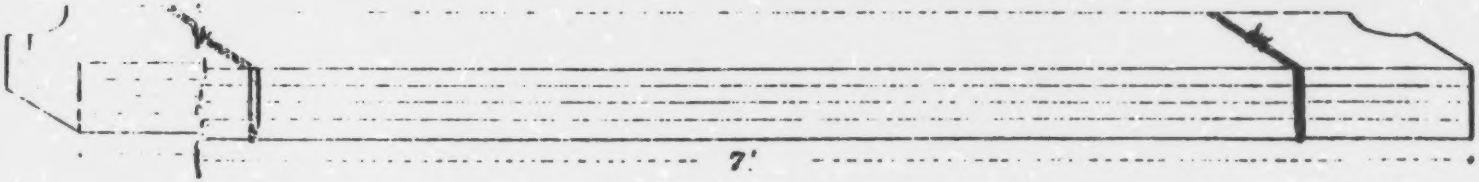
Aug 28: 1871
[illegible]

538

Contract Drawing

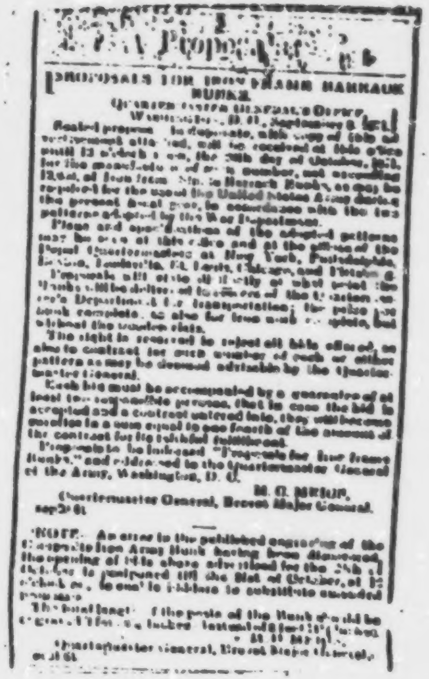

36 wide or 3 feet
2'4"
1'

Contract Drawing



These slats are of Pine, and when dressed are about 5¼" wide and ⅞" thick.

Contract Drawing--Correction Notice

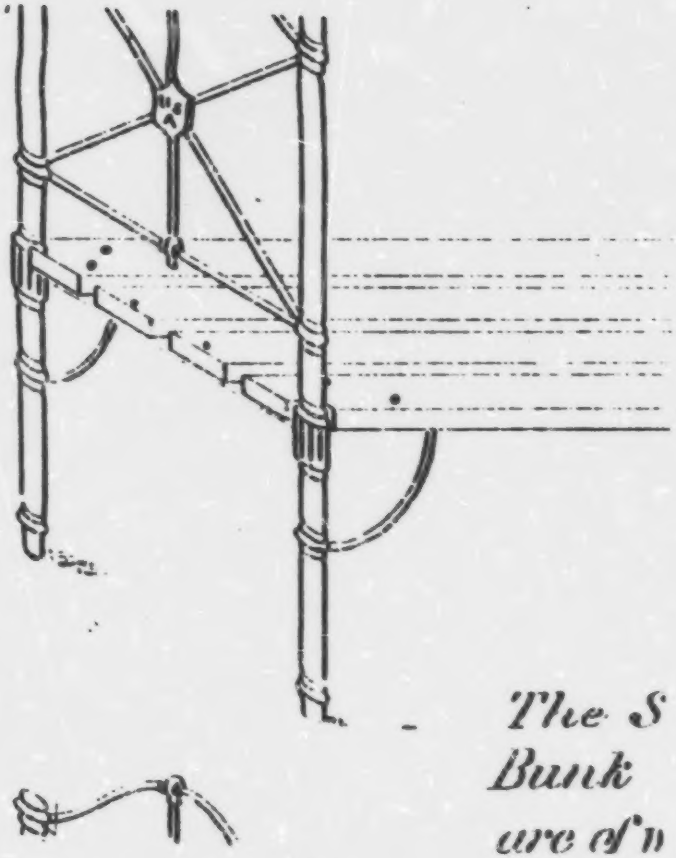


PROPOSALS FOR IRON FRAME BARRACK BUNKS.

QUARTERMASTER GENERAL'S OFFICE,
Washington, D.C.

M. C. MEIGS,
Quartermaster General, Brevet Major General.

NOTE.



The S
Bunk
are of'n

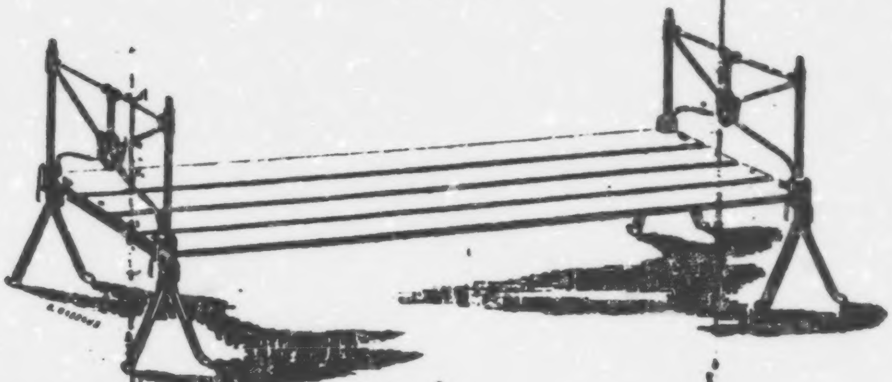
First [?] Flyer for No. 9

THE COMPOSITE BUNK.

Adopted by the Secretary of War, November, 1871, for Use in the Barracks of the United States Army.

PATENTED, AND DESIGN SECURED BY COPYRIGHT.

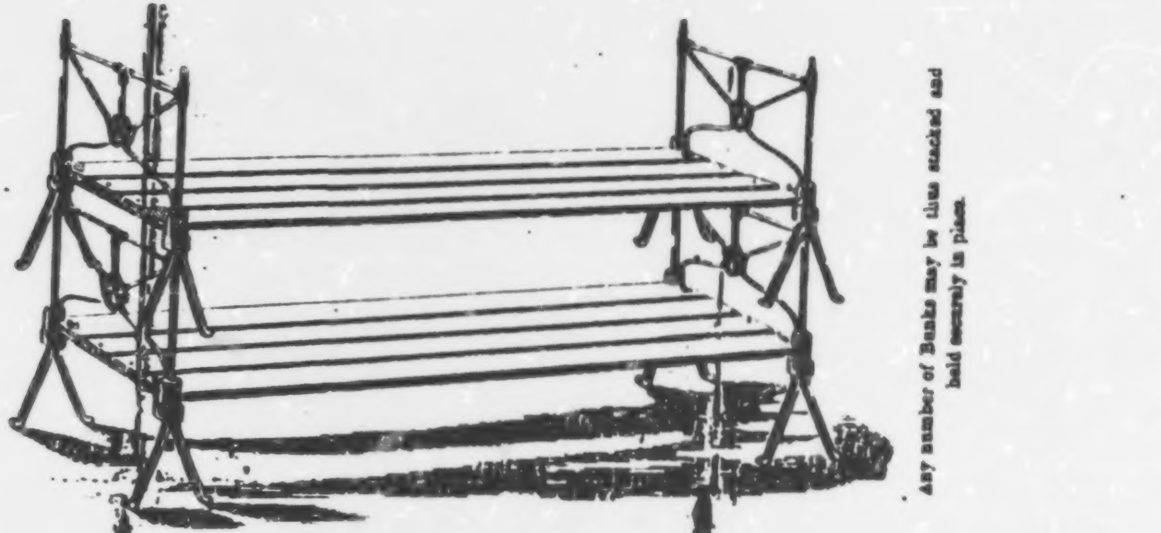
No. 9.



Width of Bunk........2 feet 6 inches.
Length of wooden Slats...6 feet 10 inches.
Width of wooden Slats...6 inches.

The Bunk complete with four Wood Slats ready for use; the two outside Slats secured in place by Thumb Nuts.

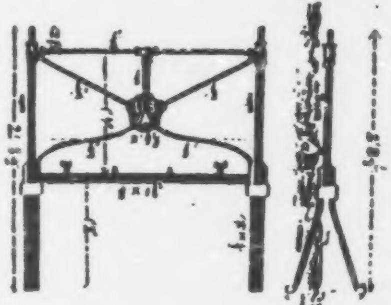
First [?] Flyer for No. 9



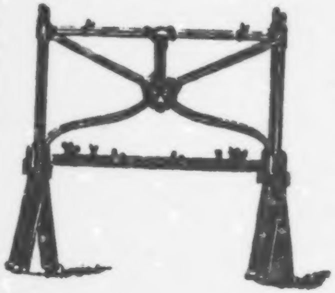
Any number of Bunks may be thus stacked and held securely in place.

The Bunks Stacked when not in use.

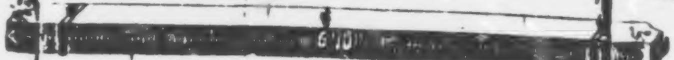
Holes in Slats for spindles to be ⅝ in diameter. Spindles to receive the wooden slats must be 1½ in height and ½ in diameter



Details of exact dimentions of the ends, size of iron used.



The two ends wired together ready for transportation.



The four Slats in bundles for transportation.

MANUFACTURED EXCLUSIVELY BY THE COMPOSITE IRON WORKS COMPANY,

Office and Warerooms, No. 109 Mercer Street, New-York.

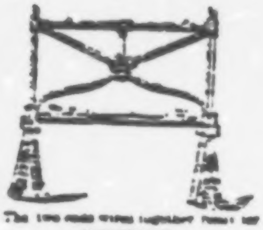
Entered according to Act of Congress, in the year 1861, by the Composite Iron Works Company, in the Office of the Librarian of Congress, at Washington, D. C.

Second [?] Flyer for No. 9--Reduced

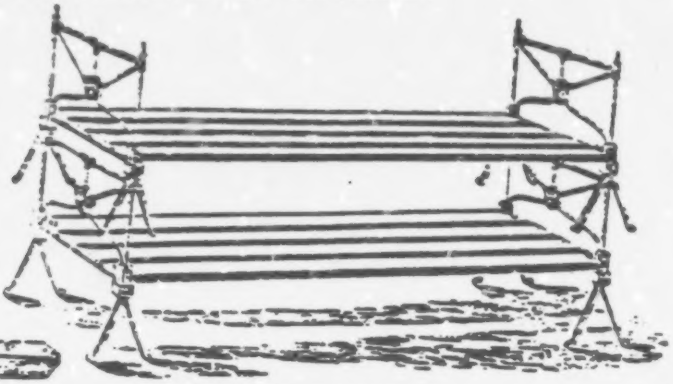
THE COMPOSITE BUNK.

Adopted by the Secretary of War, November, 1871, for Use in the Barracks of the United States Army.

PATENTED, AND DESIGN SECURED BY COPYRIGHT.

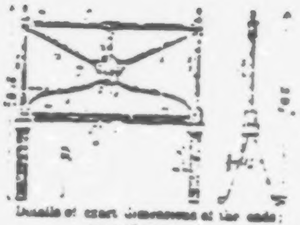


The two ends wired together ready for transportation.

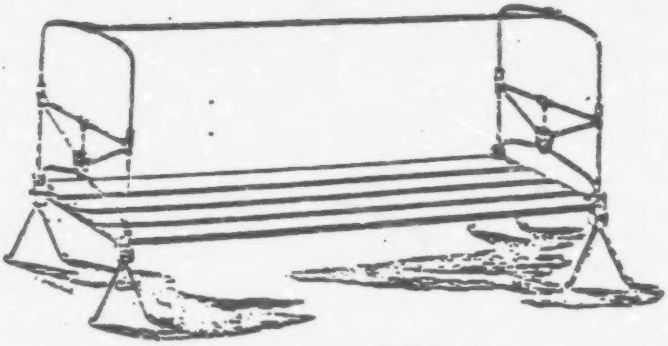


The Bunks Stacked when not in use.
Any number of Bunks may be thus stacked and held securely in place.

The four Slats in bundles for transportation.

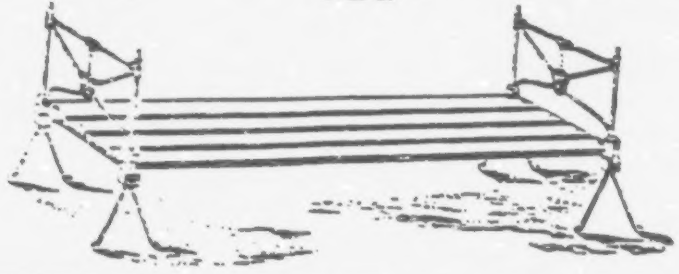


Details of exact dimensions of the ends; sizes of iron used.



The Bunk with Bows for Mosquito Net.
Width of Bunk, 2 ft. 6 in. Length of wooden Slats, 6 ft. 10 in. Width of wooden Slats, 6 in.

No. 9.



The Bunk complete with four Wood Slats ready for use; the two outside Slats secured in place by Thumb Nuts.
Width of Bunk, 2 ft. 6 in. Length of wooden Slats, 6 ft. 10 in. Width of wooden Slats, 6 in.

MANUFACTURED EXCLUSIVELY BY THE COMPOSITE IRON WORKS COMPANY,

Office and Warerooms, No. 109 Mercer Street, New-York.

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Second [?] Flyer for No. 9

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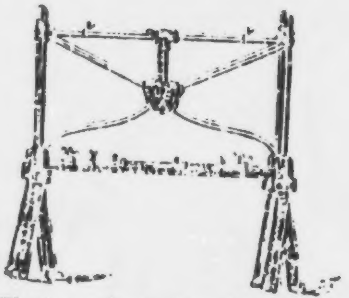
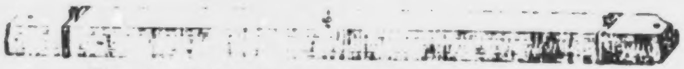
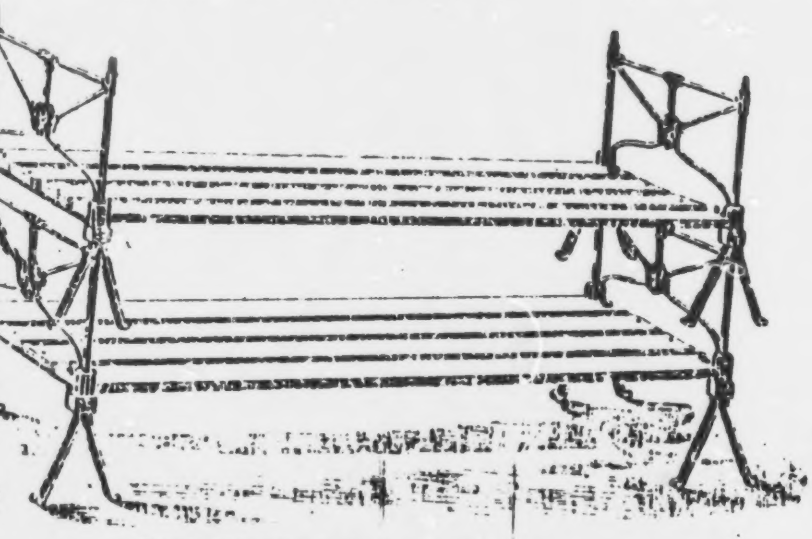
PATENTED, AND DESIGN SECURED BY COPYRIGHT.



The two ends wired together ready for transportation



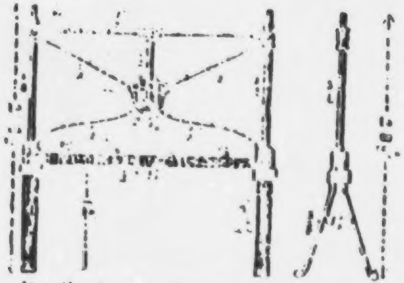
The four Slats in bundles for transportation.



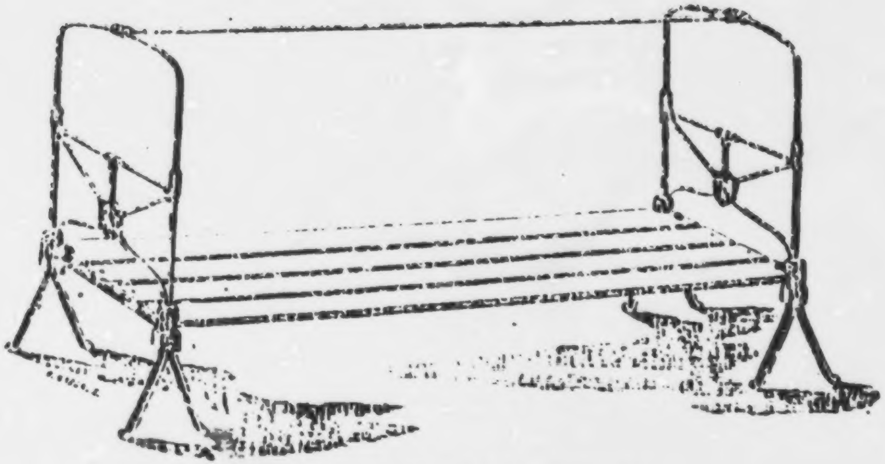
The Bunks Stacked when not in use.

Any number of Bunks may be thus stacked and held securely in place.

Second [illegible] Flyer for No. 9



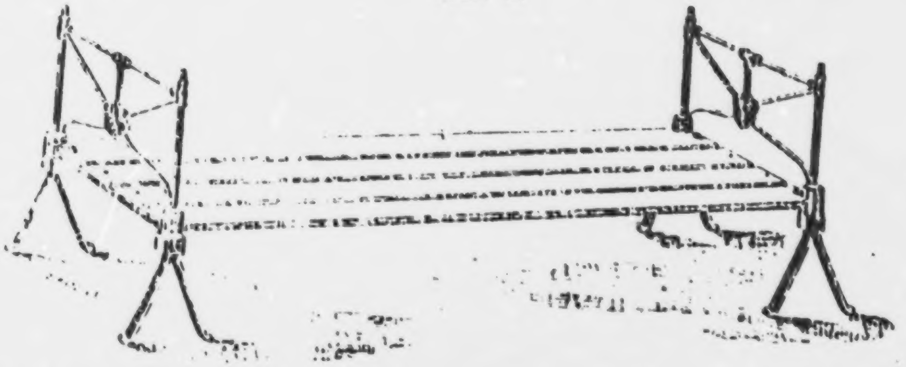
Details of exact dimensions of the ends, sizes of iron used.



The Bunk with Rods for Mosquito Net.

Width of Bunk, 2 ft. 6 in. Length of wooden Slats, 6 ft. 10 in. Width of wooden Slats, 6 in.

No. 9.



The Bunk complete with four Wood Slats ready for use; the two outside Slats secured in place by Thumb Nuts.

Width of Bunk, 2 ft. 6 in. Length of wooden Slats, 6 ft. 10 in. Width of wooden Slats, 6 in.

MANUFACTURED EXCLUSIVELY, BY THE COMPOSITE IRON WORKS COMPANY,

Office and Warerooms, No. 109 Mercer Street, New-York.

Entered according to Act of Congress in the year [illegible] by the Composite Iron Works Company, in the Office of the Librarian of Congress, at Washington, D. C.

Flyer for No. 10

177
741
1876

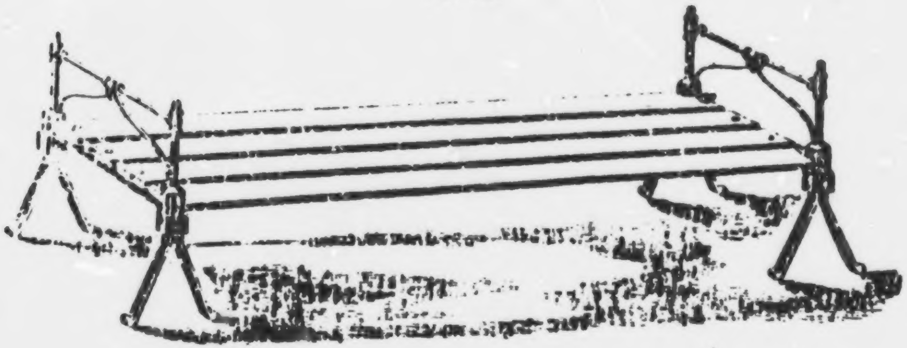
QR. MR. GEN'S OFFICE
RECEIVED [illegible] 8
1879

THE COMPOSITE BUNK.

Adopted by the War Department, 1873, for Use in the Barracks of the United States Army.

PATENTED, AND DESIGN SECURED BY COPYRIGHT.

No. 10.



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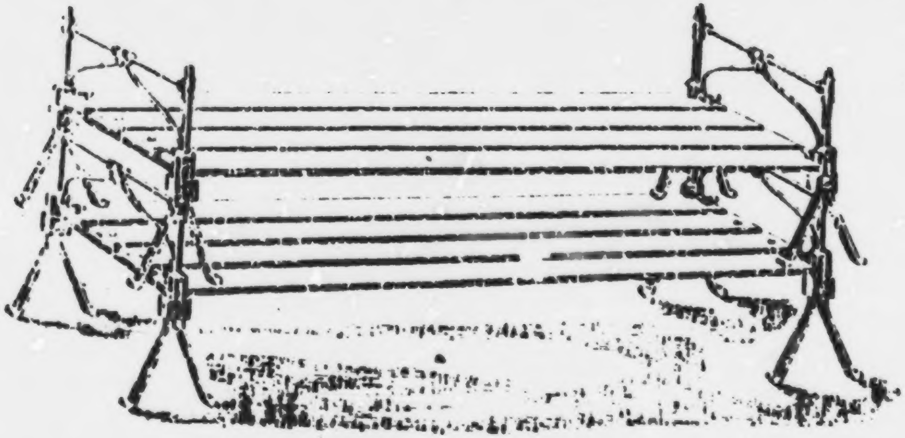
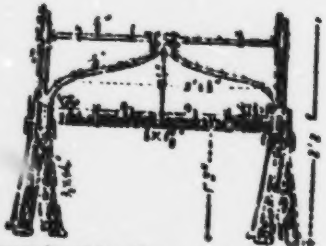
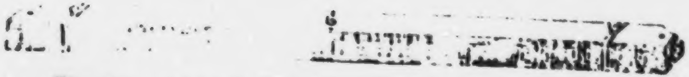
Flyer for No. 10



The Bunks Stacked when not in use.
Any number of Bunks may be thus stacked and held securely in place.



The two ends put together ready for transportation
and details of exact dimensions.



The four Wood Slats in bundles for transportation.

Width of Bunk, 2 ft. 6 in. Length of Slats, 6 ft. 8 in. Width of Slats, 6 in. Thickness, 1 in.

MANUFACTURED EXCLUSIVELY BY THE COMPOSITE IRON WORKS COMPANY,

Office and Warerooms, No. 109 Mercer Street, New York.

Entered according to Act of Congress, in the year [illegible], by the Composite Iron Works Company, in the Office of the Librarian of Congress, at Washington, D. C.

SPECIFICATIONS FOR IRON BUNKS.

[p. 269]

To consist of two trestles, one for the head, the other for the foot, made of the best quality American wrought iron, and painted.

Each trestle to have four (4) legs, two on each side, made of wrought-iron bars one and one-fourth (1¼) inch wide, three-eighths (⅜) of an inch thick, and one (1) foot long, slightly turned up on the bottom.

The two legs on the same side are, at the top, firmly united in a solid iron socket two and one-half (2½) inches long, one and three-fourths (1¾) inch broad, one and one-half (1½) inch high, diverging at right angles with the body of the trestle toward the bottom to a distance of from ten (10) to twelve (12) inches.

The same sockets hold also the cross-piece, an iron bar one and one-fourth (1¼) inch wide, one-half (½) inch thick, and two (2) feet two (2) inches long in the clear. Strongly riveted to this cross-piece are four upright iron pins one half (½) inch thick and about one and one-half (1½) inch high, at equal distances from each other, to receive and hold the slats. The two outer pins have screw-threads with corresponding thumb-nuts for the better security of the slats. On the top of the socket that connects the cross-piece with the legs is another socket, octagonal, two and one-half (2½) inches high and two (2) inches in diameter, to hold the upper frame; the latter, consisting of

270 REPORT OF THE SECRETARY OF WAR.

two (2) upright iron rods five-eighths (⅝) of an inch thick and about seventeen (17) inches high, an iron rod one-half (½) inch thick across the top of the two uprights, and four iron braces, one-half (½) inch rods, running diagonally from the four corners of the upper frame and meeting at center in an ornamented iron shield with the letters U. S. A. The two braces running from the upper corners down toward the center are straight; the lower ones are bent thus: — —. All the rods forming the upper frame are connected with neatly-turned iron sockets. There are to each bunk four slats, made of pine, ash, oak, or maple wood, about six (6) feet ten (10) inches long, six (6) inches wide, the two outside ones one (1) inch, and the two inside ones three-quarters (¾) of an inch thick. At a distance of one and three-quarters (1¾) inch from each end of the slats are holes of sufficient diameter to admit the slat pins.

Adopted May 31, 1876.

M. C. MEIGS,
Quartermaster-General, Brt. Major-General, U. S. A.

[Note that this does not provide for the top-center bracing rod shown in the drawings of "No. 9."]

APPENDIX H

THE COYLE BUNK

The Coyle, or "Coyle Army" bunk was the last model adopted for barracks before 1880. Coyle devised it as a variation on his patented bedstead of 1872, and in 1874 offered to provide his bunk to the Army at a price far lower than that demanded by Composite for its model. Meigs determined to give it a test, and asked Coyle to submit drawings and technical specifications. Using those, the Quartermaster Department gained authority to purchase 200 test models in the fall of 1874, which it distributed to 20 posts in December. In the spring of 1876 a board of officers recommended the adoption of the Coyle bunk with only one alteration--the addition of a footboard matching the headboard. With that change, the bunk was admitted to future contract competitions in 1876, and in 1878 specifications were published (which again suggests that purchases of bunks were about to resume). But although the test models were received with remarkable enthusiasm, and universally preferred to the other bunks in use, there is no record that any but the first 200 appeared in barracks.

The material in this appendix documents the Coyle bunk (all except the 1878 specifications from QMConFile--Bunks, RG92) and is presented in order:

1872, Coyle's patent. Although this model was not adopted by the army, it provided the essential foundation for the one actually adopted.

1874, ink-on-linen drawing of the bunk prepared by Coyle for the Quartermaster Department. This shows the bunk as tested. (Note--there was no figure 4, merely a slip in numbering.)

1874, printed copy, with interlineation, of specifications prepared by Coyle at the request of Meigs. This also shows the bunk as tested.

1878, specifications (ARQMG 1878.). This shows the bunk as adopted.

1872, Patent

UNITED STATES PATENT OFFICE.

HUGH B. COYLE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BEDSTEADS.

Specification forming part of Letters Patent No. 127,312, dated May 28, 1872.

Specification describing an Improved Bedstead, invented by HUGH B. COYLE, of Philadelphia, Pennsylvania.

My invention relates to the construction and arrangement of the different parts of a portable bedstead constructed of iron pipe, and the sacking bottom attached thereto, whereby the same can be readily put together and taken apart, and folded or rolled up in such sacking bottom, the object of my said invention being to construct a cheap and durable bedstead, and one which can be made to occupy an extremely small space when not in use.

Figure 1 is a perspective view of the bedstead when set up ready for use. Fig. 2 shows the same when folded or rolled in the sacking bottom.

A A A A are the side and end rails or rods of the bedstead. These rails or rods consist of sections of iron pipe, with a socket screwed on each end of each rail or rod. A sacking bottom, B, is attached to the said side rails or rods, the side edges of the canvas of such sacking bottom being turned over and sewed down and the rails or rods passed through the hem or fold thus made in the side edges of said sacking bottom to receive said side rails or rods. The rods are further fastened by cords well drawn over the sacking bottom and tightly wound round said rods and said sacking bottom at the corners, whereby the said sacking bottom is firmly secured and kept in place on said rods, but can be removed if required by loosing the said cords and unscrewing the said socket on one end of said side rail, so that it may be drawn out of the said sacking bottom; but as there are other methods of fastening the said sacking bottom to said side rods or rails, such as using a set of rivets, hooks or other devices of a like nature for that purpose, I desire to secure to myself the attaching of said side rails or rods to said sacking bottom, either detachable, or otherwise, without confining myself to the method thereof. B is the sacking bottom, made of the fibrous vegetable material commonly used for such purpose, and having the sides folded and stitched, to allow of the side rails or rods A A passing through the hems or folds thus made, as above described; but any bed-bottom which can be rolled up and attached to the said side rails or rods will answer the same purpose. C C C C are the T-sockets, with apertures of proper size to allow the posts D D D D to be passed through the portion which has a full opening through it, being left open for the said posts, the other sockets having the ends of the rails or rods A A A A screwed into them. D D D D are the four posts, each being a section of iron pipe of a proper size to pass through one of the sockets C C C C, and having a shoulder consisting of a pin set in it, or a ring, E E E E, permanently fastened upon it to receive and sustain the sockets at the ends of the rods or rails A A A A. F is the head-board, which is a plain oblong board, having a socket composed of straps, staples, or other devices made to fit the posts D D, so that it can be slipped over two of them at either end, and kept in such position attached thereto.

This bedstead is put together or set up ready for use by slipping the sockets at the ends of the rails over and along the upper portion of the posts D D D D until the same rest on the shoulder made by the pin or ring E. The sockets of the end rails should be in contact with said shoulder, the side-rails bearing upon them, the whole being kept in proper shape by the sacking bottom B. It is obvious that, to detach the parts, you have only to slip off the head-board and draw the said posts D D D D out of the sockets, when the parts separate and can be folded or rolled in the sacking bottom, and thus made to occupy the smallest possible space. By this arrangement portability, convenience, and economy of space and cost are effectually secured.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of the side and end rails A A A A with their T-sockets C C C C, posts D D D D, and sacking bottom B, constructed, arranged, and operated as described, and for the purposes set forth.

HUGH B. COYLE.

Witnesses:
JAMES I. ALLISON,
ANDREW FRENCH.

H. B. COYLE.

Improvement in Bedsteads.

No. 127,312. Patented May 28, 1872.

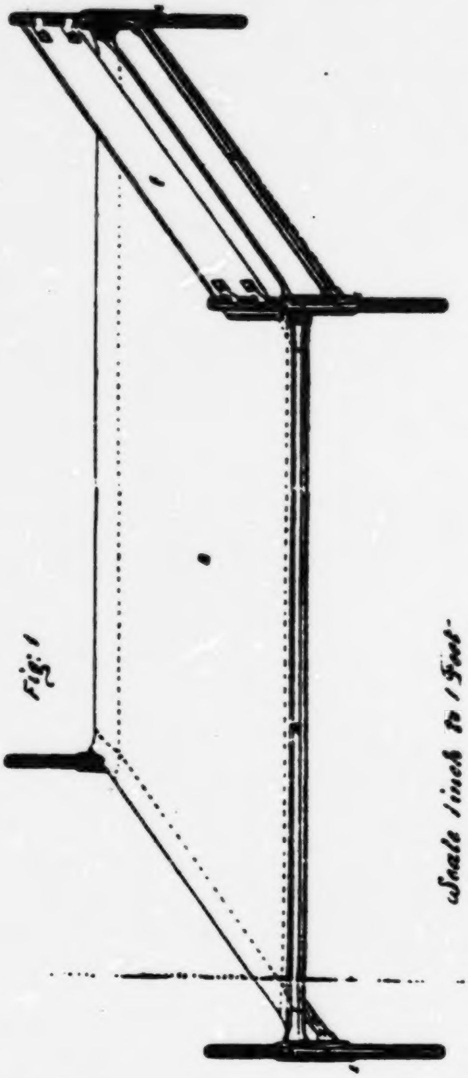


Fig. 1

Scale 1 inch to 1 foot

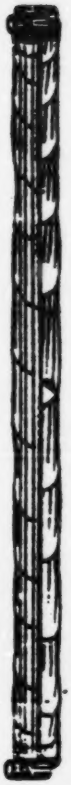


Fig. 2

Witnesses

James I. Allison

Andrew Pieuch

Inventor

Hugh B Coyle

1874, Drawing

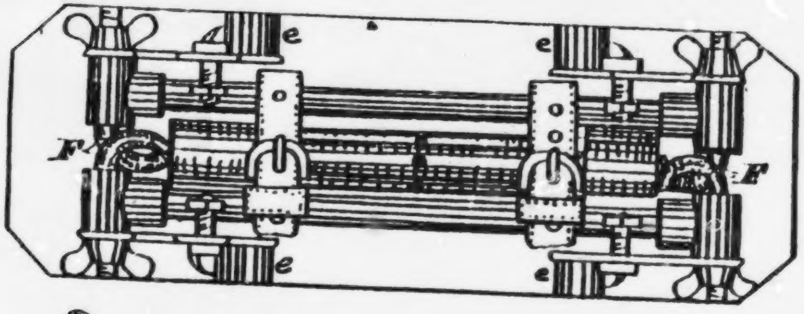


Fig.3

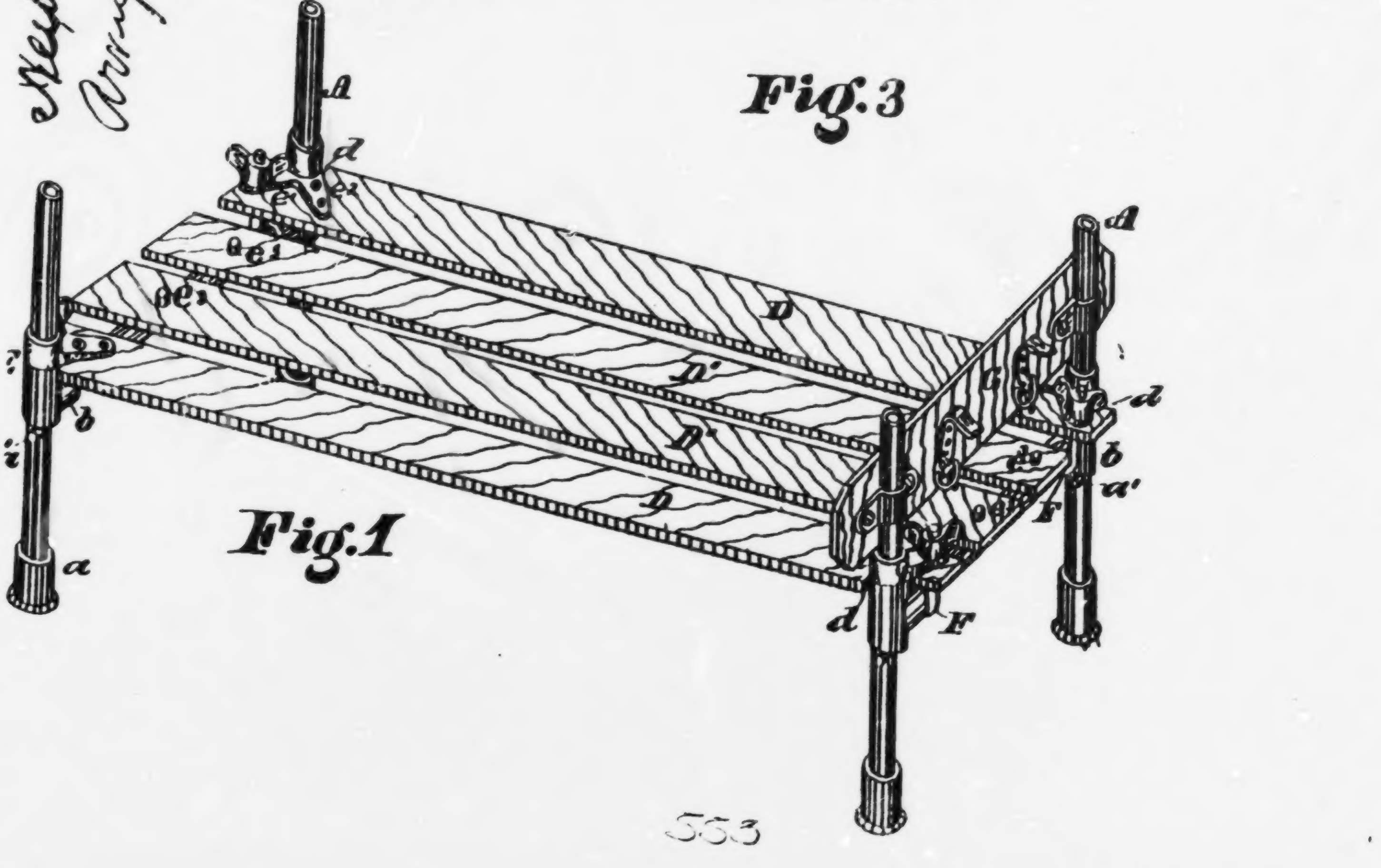

A
d
e
e
e
A
D
D'
D''
D
G
d
b
a'
F
d
F
i
b
i
a

Fig.1

553

553

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1874, Drawing

554

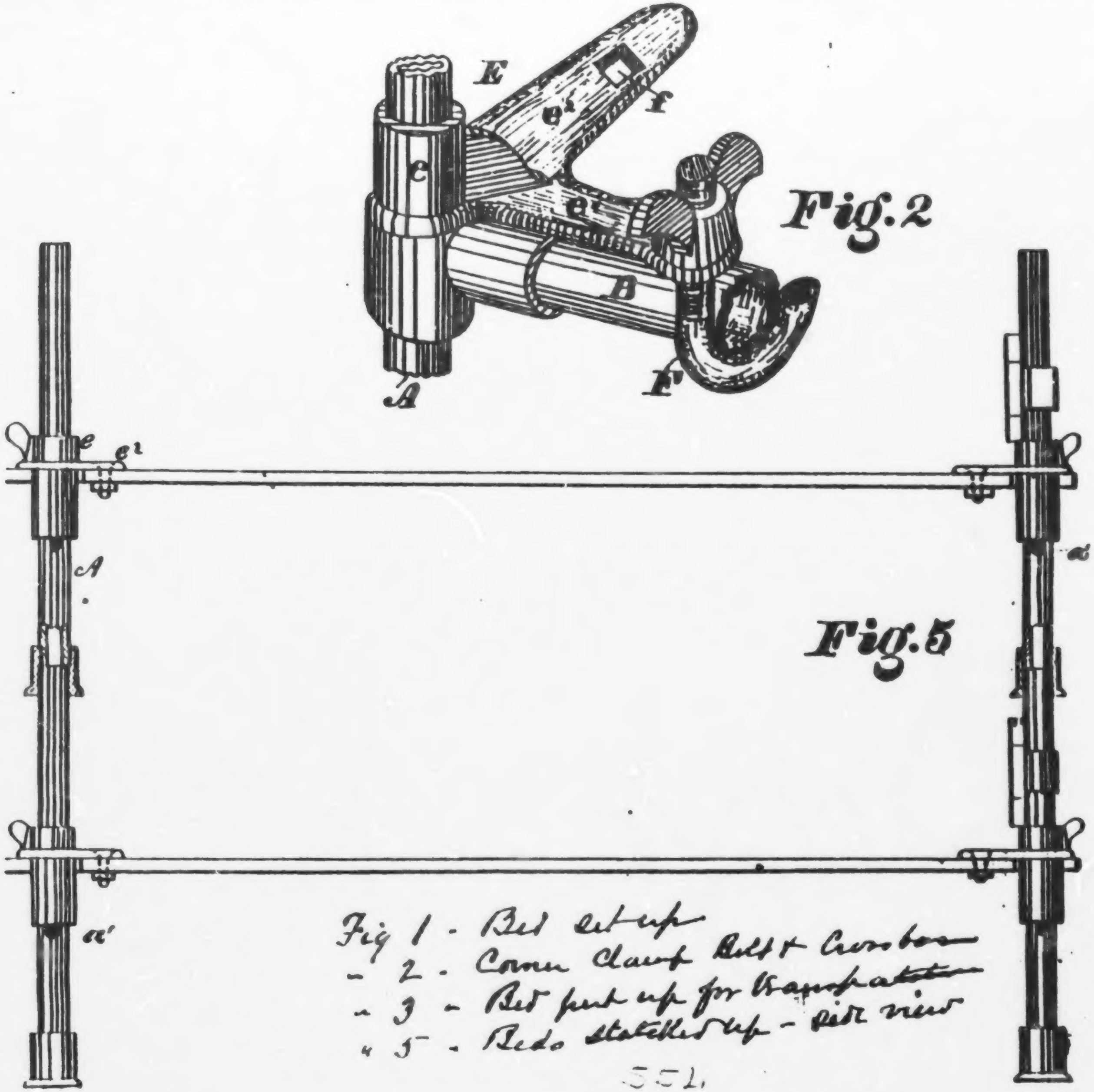


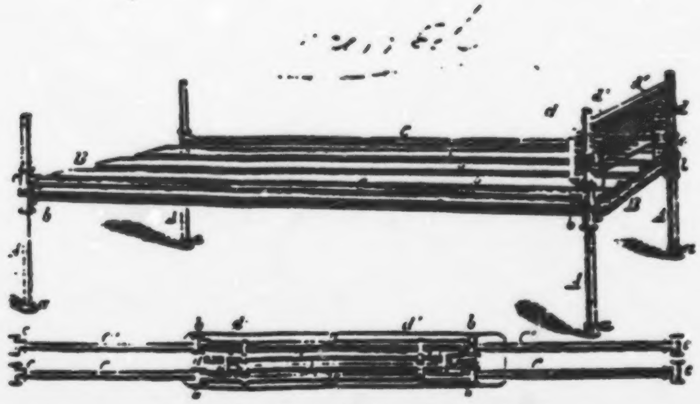
Fig.2

Fig.5

E
e'
f
c
e'
B
A
F
e
e²
A
a
a'

Fig 1 - Bed set up
" 2 - Corner Clamp Bolt & Crossbar
" 3 - Bed put up for transportation
" 5 - Beds stacked up - side view

551.



SPECIFICATIONS
OF
H. B. COYLE'S IRON BUNK.

Each Bunk has four legs, two end and two side rails, of galvanized iron piping. The legs are of ½ inch pipe, twenty-three inches long, inclusive of feet, which form sockets for stacking. The side and end rails are furnished at each extremity with T couplings having a ¾ inch bore for the passage of the legs. The legs are each at a distance of 13 inches from their lower extremity, furnished with a pin on which the couplings of the end rails rest—the couplings of the side rails resting upon the latter. Each end rail is provided with four studs, [illegible] for securing slats that may be employed. A head-board 33 inches long, 5 inches wide and ½ inch thick, is provided, held in place by staples, and furnished with straps 15 inches long, to bind around the rails when packed for transportation.

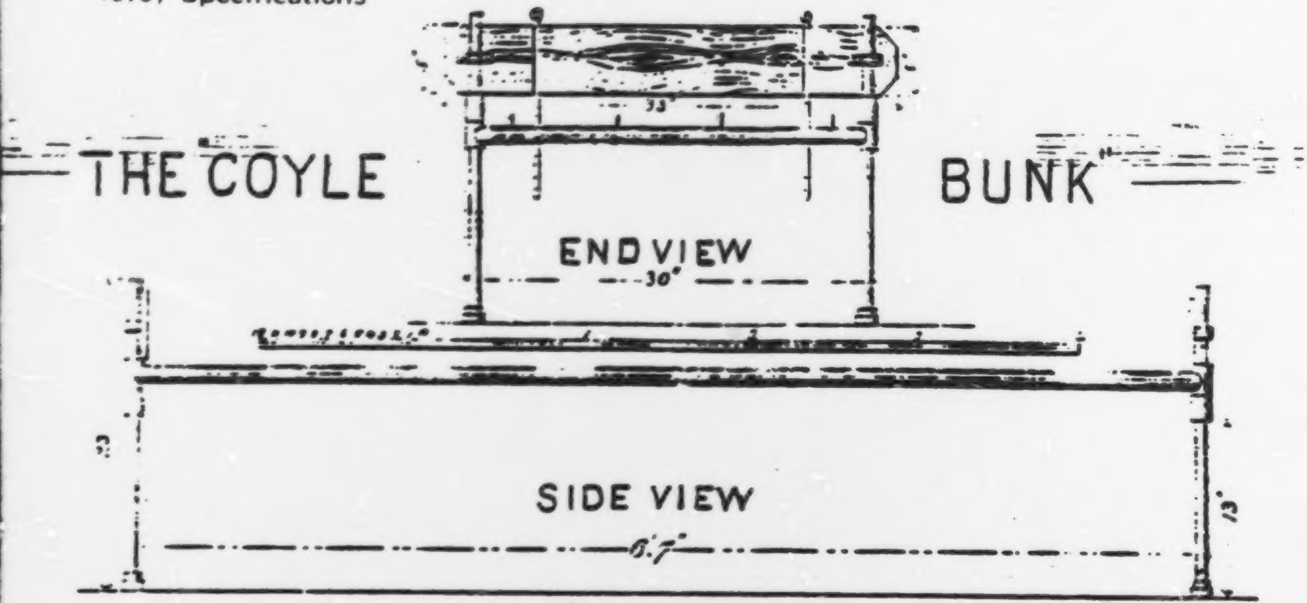
In the accompanying drawing, *A A A A* are the legs, having each feet *a a*, &c. and pins *a' a'*. *B B* are the end rails, having T couplings *b b b b* and pins *b' b'*, &c. *C C* are the side rails, having also T couplings *c c c c*. *D* is the head-board, having staples *d d* and straps *d' d'*.

The bed is put up by first passing the legs through the couplings of the end rails. The couplings of the side rails are then slipped over the legs until they rest on the couplings of the end rails, the latter resting upon the pins *b' b'* &c. The frame is then in position for the reception of any slats that may be placed in position, the pins *b' b'* &c., passing through suitable openings in said slats.

The head-board is applied by slipping its staples over the upper ends of two of the legs. The bed is taken down by lifting off the slats, removing the head-board and withdrawing the legs from the couplings of the side and end rails. The Bunk may be packed for transportation by laying the piping composing it upon the head-board, and encircling them with the straps, which when buckled will hold the parts compactly together.

1878, Specifications

THE COYLE BUNK



Specifications.

To be made of galvanized iron pipe, and to consist of the following parts: Four legs of 1/2 inch pipe, each twenty-three (23) inches long, inclusive of feet which form sockets for stacking. Two side rails of 3/4 inch pipe, each six (6) feet and seven (7) inches long, and furnished at each end with a T coupling of 7/8 inch bore to admit the legs. Two end rails of 3/4 inch pipe each two (2) feet and six (6) inches long, and furnished at the ends with T couplings same as side rails. Each leg to have, at about thirteen (13) inches from its base a small stud projecting about 3/16 of an inch, to support the couplings of end rails. The upper side of each end rail to be provided with four (4) studs or pins about one inch high to hold the slats. Two (2) end boards of half inch poplar, thirty-three (33) inches long and five (5) inches wide, corners beveled, each to be provided with two (2) flat galvanized iron staples to slip over the legs and hold in place. The end boards to be provided also with small leather straps and buckles (as on sample) for use in packing bunk for shipment.

Four Slats similar to those on the "Composite" Standard bunk.

War Department
Quartermaster General's Office.
Washington, D.C.

Adopted April 11. 1878.

M. C. Meigs

Quartermaster General
Bvt Major General U.S.A.

APPENDIX I

SPECIFICATIONS FOR BEDDING

Materials required for one "Infantry bedsack, double," 1839 and 1840--

4-1/4 yards 7-8 drilling
4-1/4 yards 3-4 drilling
3 skeins thread
1 yard binding

Bedsacks, per estimates to the close of 1838, and also per statements furnished to the Secretary of War, require materials differing from the above, viz: Bedsack, double--8-1/4 yard 7-8 drilling; 3 skeins thread; and 1 yard binding.

--ARComGenPur 1839, 299.

Civil War--Bed Sacks: cotton or linen drilling, of good quality, weighing 4 ounces to the yard; double bed sacks 72 inches long and 48 inches broad, the single bed sacks to have the same length but only 42 inches broad, each to have opening in center, 18 inches long to be tied together with 4 strings of tape each 3/4 of an inch wide and nine (9) inches long. The end pieces to be six (6) inches wide.

--"Undated Quartermaster Department specification of the Civil War period" (1864), quoted in Chappell, "Barracks Furnishings," 23.

Civil War, mosquito bar--To be made of either cotton or linen of good quality. Double bars-72 inches long 60 inches wide. Single bars--72 inches long 30 inches wide 4-1/2 feet in height. Have a loop of white tape 4 inches long strongly sewed on all upper four corners. Double bar to have two additional loops of tape of same length 1/2 way between corner loops on each side.

--"Undated Civil War manual of Civil War period" (1864), quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 15.

1875, pillow sack--To meet a want felt in the Army, the Secretary of War, on 18th September 1875, on recommendation of the Acting Quartermaster General, authorized issue of pillow-sacks to the troops. They are made from a very large stock of shelter-tents in store. Their issue has made it necessary to increase the monthly allowance of straw to enlisted men [by four pounds].

--ARQMG 1876, 126.

1879, ARQMG 1880, 407-08

WAR DEPARTMENT.
QUARTERMASTER GENERAL'S OFFICE.

SPECIFICATIONS FOR MOSQUITO BARS.

Material.

To be made of cotton or linen mosquito netting and white cotton tape, equal in quality to the same materials in the standard sample.

Dimensions.

Seven (7) feet long, two (2) feet eight (8) inches wide, and five (5) feet eight (8) inches high.

To be bound around top and down the four corners with white tape, and to have two (2) strings (white tape) nine (9) inches long, strongly sewed on each of the four (4) upper corners, and to conform in all respects to the standard sample.

Adopted March 12, 1879.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

WAR DEPARTMENT.
QUARTERMASTER-GENERAL'S OFFICE.

SPECIFICATIONS FOR BED SACKS.

Material.—To be made of cotton or linen drilling, or seven (7) ounce cotton duck of good quality.

Size.—Length, six (6) feet ten (10) inches; width, thirty-one and one-quarter (31¼) inches (measurements from corner to corner when filled); depth, four and one-half (4½) inches.

Opening.—To have an opening or fly in the center nineteen (19) inches in length, with one (1) by one and a quarter (1¼) inch stay piece at each end; opening fastened with four (4) strings of three-quarter (¾) inch tape, placed equidistant from each end.

Finish.—All seams to be double; ends cut square; openings, button-hole stitched at each end.

Adopted March 12, 1879.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

WAR DEPARTMENT.
QUARTERMASTER-GENERAL'S OFFICE.

SPECIFICATIONS FOR PILLOW SACKS.

Material.

To be made of cotton or linen drilling, or seven (7) ounce cotton duck of good quality.

Dimensions.

Length, when filled, twenty-seven and one-half (27½) inches; width, when filled, seventeen (17) inches; depth, when filled, three and three-fourths (3¾) to four (4) inches. Measurements to be made from corner to corner.

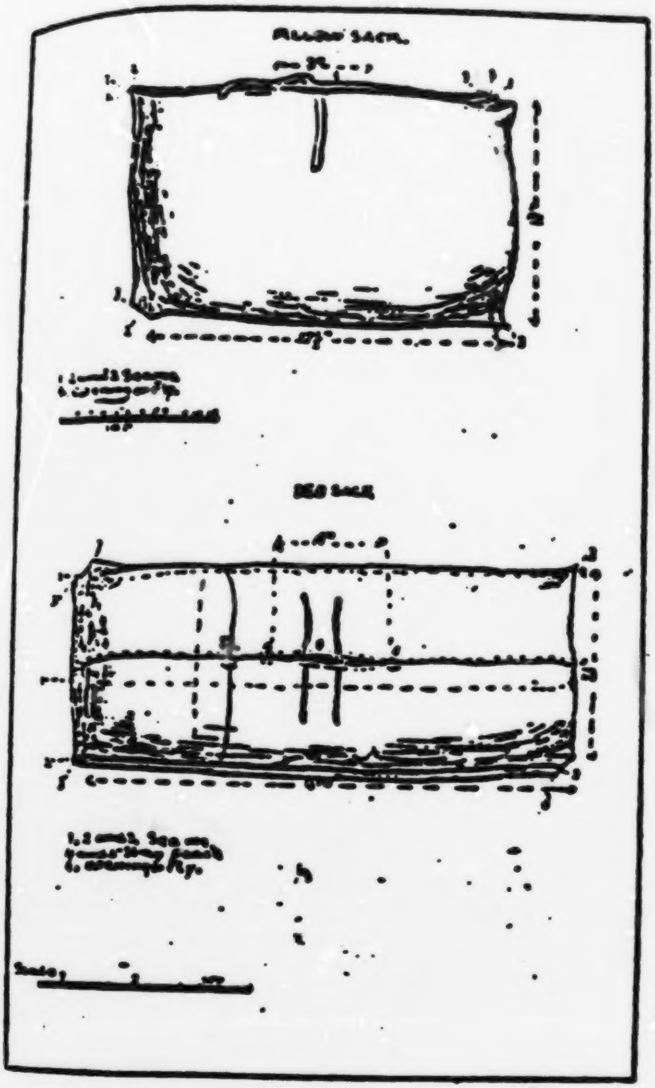
To have an opening or fly in the seam in upper side seven (7) inches long, to be fastened with two (2) strings of three-quarter (¾) inch cotton tape. Ends of opening to be properly stayed with button-hole stitch.

Ends of sack to be cut square.

Adopted March 12, 1879.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

Reproduced from the Fort Davis "Historic Structure Report," origins not identified


PILLOW SACK.
BED SACK.

APPENDIX J

SPECIFICATIONS FOR BLANKETS

1808--Five hundred three point twilled cotton Blankets, to have at each end a broad blue stripe & none on the sides; also to have on the side near the said stripe at the rear end next to the [illegible] three small blue points about five inches in length; the blankets to be of the weight of three pounds and one half each when finished, and to measure in the same state full six feet in length & full four feet seven inches in width; the pile or nap to be well raised on the upper side, and to be as well raised as may be conveniently practicable on the lower side. The price to be two Dollars and one quarters for each blanket paid on delivery and after Inspection. The which is to be completed within six months from this date.

--Contract, Coxe to Joseph Garlick and Daniel MGinnis, June 15, 1808, QMConFile--Blankets, RG92.

1811--The blankets will be made at $2.60 twilled 3-1/4 to 3-1/2 lb.--6 ft. by 4-1/2 ft.

--Coxe to Messrs. Shepherd, Aug. 24, 1811, quoted in Kummerow and Brown, *Enlisted Barracks at Fort Snelling*, 14.

1811--I am purchasing 3 point woolen twilled blankets 6 feet long 4 ft. 6 in. wide, and not less weighing 3-1/4 to 3-1/2 lb. each, twilled *with a blue stripe at each end* for $2.60.

--Coxe to William Montogomery, Sept. 16, 1811, quoted ibid., 14.

1812--Although we were satisfied with the texture & firmness of our Blankets, yet it would have been pleasing to have had a pattern by which to make them, or to have had some specific directions by which to govern ourselves. We should then have been certain of their being accepted. . . .

We are constructing a Machine to raise the Nap which promises less danger to the Blanket than the common method of doing it by hand, and wish to know if you would delay the delivery of the first parcel a week or two to give it trial, as the experiment was undertaken in consequence of your Recommendation.

--C. Hashfield of Providence to Coxe, Feb. 28, 1812, QMConFile--Blankets, RG92.

1814--P. M. Kell reported that he was about to buy 3000 or 4000 pairs of cotton blankets, each blanket two yards long, one and one-half yards wide, and about three and one-half pounds in weight, at eighty cents each.

--Kell to Irvine, Dec. 29, 1814, ibid.

1816--Six thousand Blankets, of Wool, Six feet six inches long, and five feet wide, each Blanket to weigh fifty-four ounces. They are to be scoured quite clean, and well fulled, and are to be in all respects equal to the Blanket in this Office, on which this Contract is founded.

--Contract, Irvine to McCallmont and Reilly of Philadelphia, 1816, ibid.

1821--I suggest for your consideration the propriety of having all Army blankets marked in the center thereof with the letters U. S. with indelible liquid. . . . I also suggest the propriety of having the great Coat marked inside and near the center of the backs. . . .

. . . I have recieved your letter of the 17th instant and approve for the reasons you give of marking the public blankets and great coats, and you will have it done accordingly.

--Irvine to Secretary of War, Jan. 17, 1821, and Secretary of War to Irvine, date not recorded, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, appendix.

1836--The narrow blue stripe for the blankets of indigo dye, and of finer wool than that in the blanket to which you have referred, is approved.

--Irvine to Richard Kimball, Feb. 8, 1836, quoted in ibid., 15.

1836--The blankets required for the soldiers are to be 6 feet 6 inches long and 5 feet wide. To be twilled, to be made of good wool, to have the nap well raised upon them on one side, and a little raised on the other, and each blanket is to weigh 4 pounds--also to have a blue stripe on each end, of indigo, about three inches wide-otherwise the blankets are to be white and perfectly clear of all foreign matter.

--Irvine to Messrs. Burnham and Baker, Dec. 12, 1836, quoted in ibid., 15.

1861--Blanket-woolen, gray, with letters U. S. in black, four inches long, in the centre; to be seven feet long, and five and a half feet wide, and to weigh five pounds.

--1861 Regulations, par. 1571.

Civil War--Blanket 1 (E31839/7832 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 78 inches by 64 inches. A two-inch wide stripe of green-brown is interwoven into the fabric 3-1/2 inches from the border only, paralleling the 64-inch sides. The outline letters "U S" are woven into the center in the same olive color wool; the letters are seven inches high, and the overall distance across them is 11-1/2 inches. . . .

Blanket 2 (E35137/8958 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 78 inches by 66 inches. A 2-3/4 inch strip of brown wool is interwoven into the fabric five inches from the border only, parallelling the 66-inch sides. The outline letters "U S" are woven into the center in brown wool; the letters are six inches high and the overall distance across the letters is nine inches. Stenciled parallel to one of the stripes are 1-1/2 inch high letters: "SERG'T F. W. Friese / CO. A 39 W. V." in two lines. Sergeant Frederick W. Freise served in the 39th Wisconsin Volunteer Infantry from 16 May to 22 September 1864. This blanket has been sewn to a backing of brown cotton, either as an attempt to make it more comfortable or in order to prevent the loose fibers from separating. It is presumed the added backing is post-War.

Blanket 3 (H2143/17020 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 78 inches by 68 inches. A 3-3/4 inch stripe of dark olive wool is interwoven into the fabric three inches from the border only, parallelling the 67-inch sides. The outline letters "U S" are woven into the center in the same olive wool, but differs in being formed from three parallel rows of fiber; these letters are six inches high, and the overall distance across the letters is 12 inches. Printed below the letters in black letters in three lines respectively 3-1/2 inches, 4-1/2 inches and 2-3/4 inches high is the identification: "E. W. Mills / Co. G. 30th R. / WIS. VOLS." Private Edward Mills enlisted in the 30th Wisconsin Volunteer Infantry 21 August 1862; he was discharged for disability on 15 January 1865. . . .

Blanket 4 (H16817/21683 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 80 inches by 64 inches. A 3-1/4 inch stripe of brown wool is interwoven into the fabric four inches from the border only, parallelling the 64-inch sides. The outline letters "U S" are woven into the center in brown wool; the letters are six inches high, and the overall distance across the letters is ten inches. The stripes are badly deteriorated. The blanket was carried by Albert Kunz who enlisted in Co. F 26th Wisconsin Volunteer Infantry 5 August 1862; he was wounded at Gettysburg and subsequently transferred to the 72nd Company, 2nd Battalion of the Veteran Reserve Corps; he mustered out 9 August 1865.

Blanket 5 (16818/21689 MPM): The blanket is tan (a mixture of unbleached and brown fibers), measuring 76 inches long. Only 41 inches of the width remain; all else was scissored away. The location of the "U S" indicates the original width was approximately 66 inches. A 3-1/4 inch deep olive stripe of wool of the same weave of materials as the remainder of the blanket is woven into the fabric four inches from the border only, paralleling the presumed 66-inch sides. In the would-be center, the outline letters "U S" are interwoven in deep olive wool, but like Blanket 3 above, are formed from three parallel rows of yarn. The letters are four inches high, and the overall distance across the letters is 10-1/2 inches.

--Museum catalog descriptions of five Civil War blankets, Milwaukee Public Museum, quoted in Chappell, "Barracks Furnishings."

Civil War--The latter is a blanket of tan wool (mixed unbleached and brown fibers), measuring 78-1/2 inches by 63 inches. A 2-3/8 inch olive-brown stripe of wool is interwoven approximately three inches from the border only, parallelling the 63-inch sides. The outline letters "U S" are woven into the center of the blanket with three rows of parallel olive-brown yarn; these letters are 5-1/2 inches high, and the overall distance across the letters is 11 inches. The borders, like most of these blankets, are frayed.

--Description of Civil War blanket in a private collection, quoted in ibid.

1873--Each blanket to be seven (7) feet long and five (5) feet six (6) inches wide, and to weigh five (5) pounds. To be gray in color, and made of pure long-staple wool, free from shoddy, reworked wool or cotton, or any impure materials; to have the letters "U. S." in black, four (4) inches long, in the center, and to bear a strain of not less than twenty-five (25) pounds per inch for the warp and thirty (3) pounds per inch for the woof without tearing. Note: It is immaterial whether the letters "U. S." be stamped on the blanket or woven into the fabric.

--Specifications for the new Mission and Pacific Woolen Mills blanket, Aug. 15, 1873, quoted in ibid.

1875--Blankets, Rubber. To be made of good strong unbleached muslin coated with India Rubber vulcanized; to be 46 inches wide and 7 inches long, and be provided with brass grommets.

A piece of stront [sic] webbing 24 inches long for the purpose of tying on blanket with two extra grommets for same.

The grommets to be one inch from their centres to the edge of the blanket on one side and end, and two inches to the other side and end.

The grommets must be stayed and placed equi-distant 14 inches apart so as to match.

Edges to be strenghened with an extra strip of rubber.

Furnished from Phila. Depot by Col. Easton March 2nd 1875.

--Miscellaneous Specifications, RG92.

SPECIFICATIONS FOR WOOLEN BLANKETS

Each blanket to be seven (7) feet long and five (5) feet six (6) inches wide, and to weigh five (5) pounds. To be gray in color, and made of pure long-staple wool, from from shoddy, reworked wool or cotton, or any impure materials; to have the letters "U.S." in dark blue, four (4) inches long, in the center; to bear a strain of not less than twenty-five (25) pounds per inch for the warp, and thirty (30) pounds per inch for the woof without tearing, and to have not less than twenty-two (22) threads of warp and twenty-five (25) threads of filling or woof to the inch. The threads to be well driven up. The stripes at ends of blanket to be dark blue, of pure indigo dye.

NOTE.--It is immaterial whether the letters "U.S." be stamped on the blanket or woven into the fabric: their color must be pure indigo dye.

Adopted by the Secretary of War August 23, 1876, in lieu of the specifications adopted August 15, 1873.

M.C. MEIGS,
Quartermaster-General, Brevet Major-General, U.S.A.

--1876, from ARQMG 1877, 269:

A comment on the color of Civil War blankets: According to William L. Brown III of the National Park Service (personal communication, Jan. 13, 1982, recent research by two investigators shows that Confederate clothgoods were, mostly, gray when finished. The dye, however, broke down quickly when exposed to air and light, turning them brown. The United States government, of course, specified gray in its large purchases of blankets at home and abroad. The brown color of so many specimens is probably a reflection of the same unstable dyeing: an unshipped specimen located in Denmark is gray.

APPENDIX K

OTHER SPECIFICATIONS

This appendix offers specifications and illustrations of other standard furnishings, in order:

1831, Camp Kettles, Mess Pans, Mess Cans
1875, Iron Pots
1875, Camp Kettles
1875, Company Order Books, Company Descriptive Books, Company
    Morning Report Books, and Company Clothing Account Books.
1875, Footlocker
1876, Stencil Plates, Scrubbing Brushes, Brooms
1878, Barrack Chairs

See also appendix C for cooking ranges.

1831, Kettles and Mess Pans and Cans--[The camp kettle is to be] made of the best American sheet iron and in the best manner as to workmanship. Seams neatly and tightly closed, the camp kettle having a well sized smooth and perfectly round base. Camp kettle in height 11-1/2" in dia. 12" 17 lbs. 12 oz.

There are to be two smaller sized kettles, made to fit into each other neatly as a nest of three. These are furnished by the pound.

Mess pan--dia. at top 11-1/2" and trifle more than 8-1/2" dia. at bottom. These are furnished by the piece. Height of mess can 5-1/4" both are neatly turned at the top over a stout wire.

--Irvine to Robert Dingee, Feb. 5, 1831, quoted in Kummerow and Brown, Enlisted Barracks at Fort Snelling, 24.

1875, Iron Pots--Pots: Iron. To be of cast iron, diameter outside at rim 15-3/8 inches, depth inside 11-1/2 inches, with three legs on bottom, 3-1/2 inches long; ear on opposite sides of the top for the bail.

The latter to be of round iron 7/16 of an inch diameter. Capacity 6 gallons. Weight 35 to 37 pounds.

Furnished from Phila Depot by Col Easton March 2nd 1875.

--Miscellaneous Specifications, RG92; probably far older than 1875.

1875, Camp Kettles--Kettles, Camp. To be of three sizes made of good American sheet iron, and so as to fit into each other in nests of three, viz: No. 1. the largest size should be 12 inches diameter and 11-3/4 inches deep: to contain 4-1/2 gallons.

No. 2. 10-1/4 inches diameter, 11-1/2 inches deep, to contain 3-1/2 gallons. No. 3. 9-1/2 inches diameter, 11-1/4 inches deep and to contain 2-1/2 gallons.

To have iron wire bails 5/16 of an inch in diamter, the ends to be drawn to a point.

Rim to be formed over a heavy iron wire.

Weight of nest of three kettles 17 to 17-1/2 pounds.

Furnished from Phila. Depot by Col. Easton. March 2nd. 1875.

--ibid.; probably far older than 1875.

1875, Books--Books, Company Order. To have 44 ruled leaves and 4 unruled leaves. 24 lbs. demy; size of paper when folded in book, 10-1/4 inches broad, 15-1/2 inches long.

Books, Company Descriptive. Same in all respects as the company order books, with the addition of printed heading according to pattern.

Furnished from Phila. Depot by Col. Easton, March 2nd 1875.

Books: Company Morning Report. To have 96 ruled and printed leaves, according to pattern, and four unruled blank fly leaves 24 lbs. per ream; size of paper when folded in book, 11 inches broad by 14-1/2 inches long. Furnished from Phila. Depot, by Col. Easton, March 2nd 1875.

Books, Company Clothing Account. To have 140 ruled and printed leaves, according to pattern, and 4 unruled blank fly leaves, 24 lbs demy; size of paper when folden |sic| in book: 10-1/4 inches broad, 15-1/2 inches long.

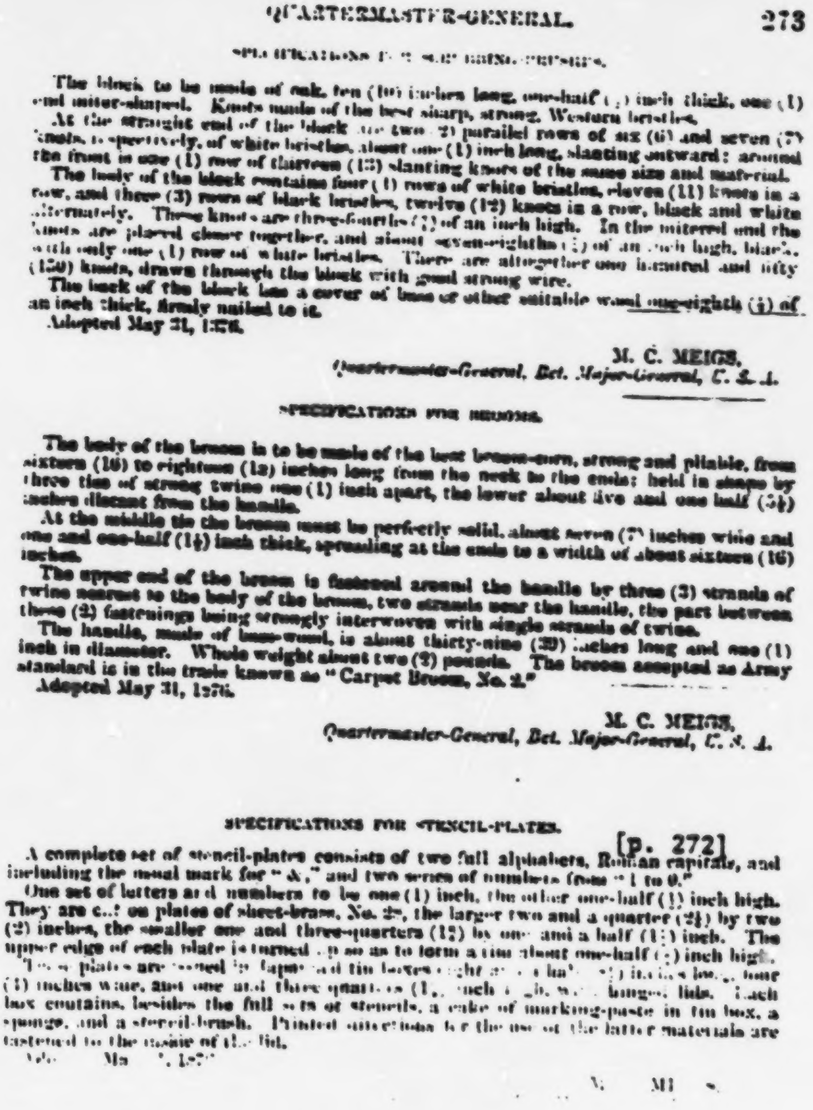
Furnished from Phila Depot by Col. Easton March 2nd 1875.

--Ibid.

1875, Footlocker--The Quartermaster Department will provide, in all permanent barracks, a box or a locker for each soldier in which to store his full dress uniform and extra clothing. The box or locker will be of the following dimensions: length 24:, breadth 12:, height 10:. To be constructed of pine, 3/4" thick, with iron hinges 10" in length and 1-1/2" in width, together with suitable staple and hasp. Each man will provide his own padlock. The boxes will be permanent fixtures of the barracks.

General Order No. 56, Apr. 30, 1875, General Orders and Circulars, RG94.

--1876, Stencil Plates, Scrubbing Brushes, and Brooms; the following are from ARQMG 1877, 272-73.



QUARTERMASTER-GENERAL. 273

SPECIFICATIONS FOR SCRUBBING-BRUSHES.

The block to be made of oak, ten (10) inches long, one-half (½) inch thick, one (1) end miter-shaped. Knots made of the best sharp, strong, Western bristles.

At the straight end of the block are two (2) parallel rows of six (6) and seven (7) knots, respectively, of white bristles, about one (1) inch long, slanting outward; around the front is one (1) row of thirteen (13) slanting knots of the same size and material.

The body of the block contains four (4) rows of white bristles, eleven (11) knots in a row, and three (3) rows of black bristles, twelve (12) knots in a row, black and white alternately. These knots are three-fourths (¾) of an inch high. In the mitered end the knots are placed closer together, and about seven-eighths (⅞) of an inch high, black, with only one (1) row of white bristles. There are altogether one hundred and fifty (150) knots, drawn through the block with good strong wire.

The back of the block has a cover of bass or other suitable wood one-eighth (⅛) of an inch thick, firmly nailed to it.

Adopted May 31, 1876.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

SPECIFICATIONS FOR BROOMS.

The body of the broom is to be made of the best broom-corn, strong and pliable, from sixteen (16) to eighteen (18) inches long from the neck to the ends; held in shape by three ties of strong twine one (1) inch apart, the lower about five and one half (5½) inches distant from the handle.

At the middle tie the broom must be perfectly solid, about seven (7) inches wide and one and one-half (1½) inch thick, spreading at the ends to a width of about sixteen (16) inches.

The upper end of the broom is fastened around the handle by three (3) strands of twine nearest to the body of the broom, two strands near the handle, the part between these (2) fastenings being strongly interwoven with single strands of twine.

The handle, made of bass-wood, is about thirty-nine (39) inches long and one (1) inch in diameter. Whole weight about two (2) pounds. The broom accepted as Army standard is in the trade known as "Carpet Broom, No. 2."

Adopted May 31, 1876.

M. C. MEIGS,
Quartermaster-General, Bvt. Major-General, U. S. A.

SPECIFICATIONS FOR STENCIL-PLATES.

[p. 272]

A complete set of stencil-plates consists of two full alphabets, Roman capitals, and including the usual mark for "&," and two series of numbers from "1 to 0."

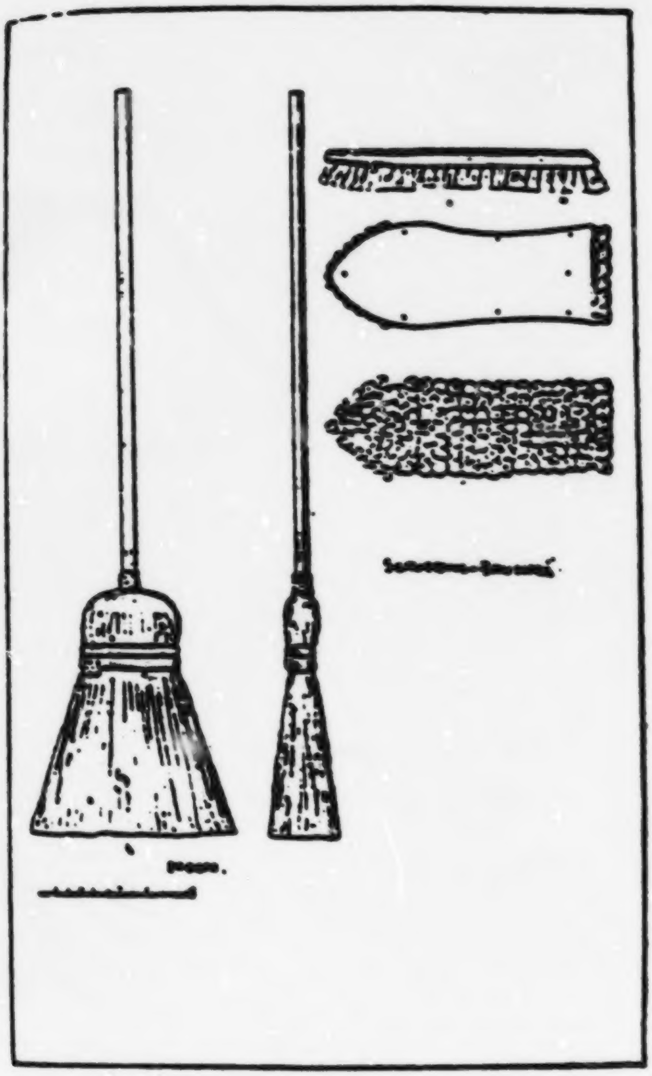
One set of letters and numbers to be one (1) inch, the other one-half (½) inch high. They are cut on plates of sheet-brass, No. [illegible], the larger two and a quarter (2¼) by two (2) inches, the smaller one and three-quarters (1¾) by one and a half (1½) inch. The upper edge of each plate is turned up so as to form a rim about one-half (½) inch high.

These plates are packed in japanned tin boxes eight and a half (8½) inches long, four (4) inches wide, and one and three quarters (1¾) inch high, with hinged lids. Each box contains, besides the full sets of stencils, a cake of marking-paste in tin box, a sponge, and a stencil-brush. Printed directions for the use of the latter materials are fastened to the inside of the lid.

Adopted May [illegible], 187[illegible]

M. [illegible] MEIGS,

(From the Fort Davis "Historic Structure Report," origins not identified.)



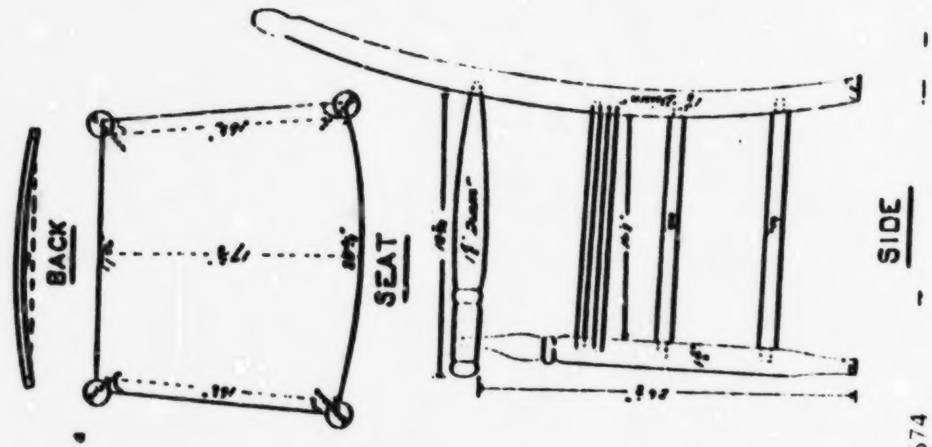
1878, Barrack Chairs; from ARQMG 1878, 399f. Note, General Order 118 of 1877 established the following supply table for these chairs: one to every noncommissioned officer above the rank of corporal, and six for every 12 enlisted men of all other grades.

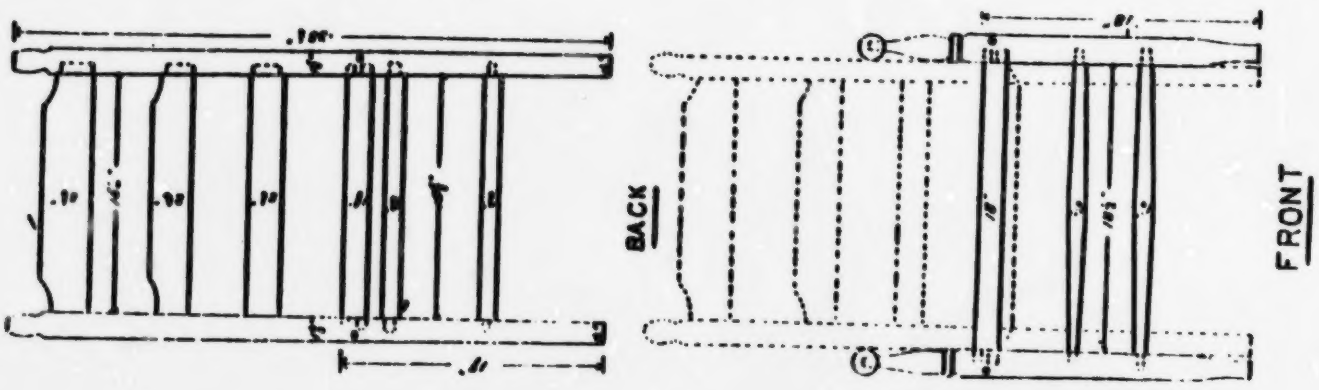
BARRACK-CHAIR

The chairs to be delivered knocked down, i.e. not put together but packed in crates of convenient size for transportation by rail.
The seat to be of pine or white wood, concave on top.
The rest of the chair of oak, ash or maple, sound and well seasoned, free from all knots, checks or imperfections.

M. C. Meigs

Adopted January 9th 1878 } *Quartermaster General, Bvt. Maj. Gen'l U.S.A.*





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APPENDIX L

MISCELLANY

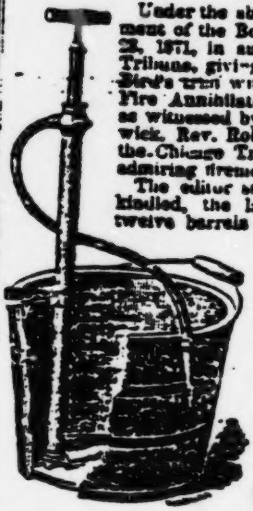
This appendix offers illustrations of miscellaneous contents of barracks during the 1870s, in order:

Advertising card showing the Johnson Hand Force Pump (from Correspondence Relating to Army Wagons, Annual Estimates . . . , RG92). Although the Johnson fire extinguisher came later than the Babcock, by the middle of the 1870s it was by far the most widely distributed extinguisher in the Army.

Patent Drawing, Babcock Patent Fire Extinguisher (from Records of the Patent Office, RG241, lodged in the Cartographic Center, NA). The Army purchased large numbers of these from Babcock and also from Champion, who manufactured them under license from Babcock. The housing was copper.

Drawings, specifications, and discussion of multiple shower-bath proposed by Billings in 1875 (from Report on Hygiene, x-xi).

"A NEW FIRE EXTINGUISHER."



Under the above heading in the Supplement of the Boston Advertiser, December 28, 1871, in an article from the Chicago Tribune, giving the result of Mr Joseph Bird's trial with one of Johnson's Patent Fire Annihilators, or Hand Force Pump, as witnessed by Fire Commissioner Chadwick, Rev. Robert Collyer, the editor of the Chicago Tribune, and a concourse of admiring firemen.

The editor states that three fires were kindled, the largest being a bonfire of twelve barrels and hogsheads filled with shavings, saturated with kerosene, which, after burning over five minutes, was extinguished in a little over one minute with four pails of water.

The opinion was then expressed that one of these little *Fire Kings* (weighing but three pounds, and costing but Ten Dollars,) in the policeman's hands who first arrived at the fire would have prevented the great Chicago conflagration.

MANUFACTURED BY

HILDRETH & JOHNSON,

67 Blackstone Street,

BOSTON, MASS.

BEST COPY AVAILABLE

Class 169-Fire Extinguishers,
Chemical Mixing,
Automatic.

9257

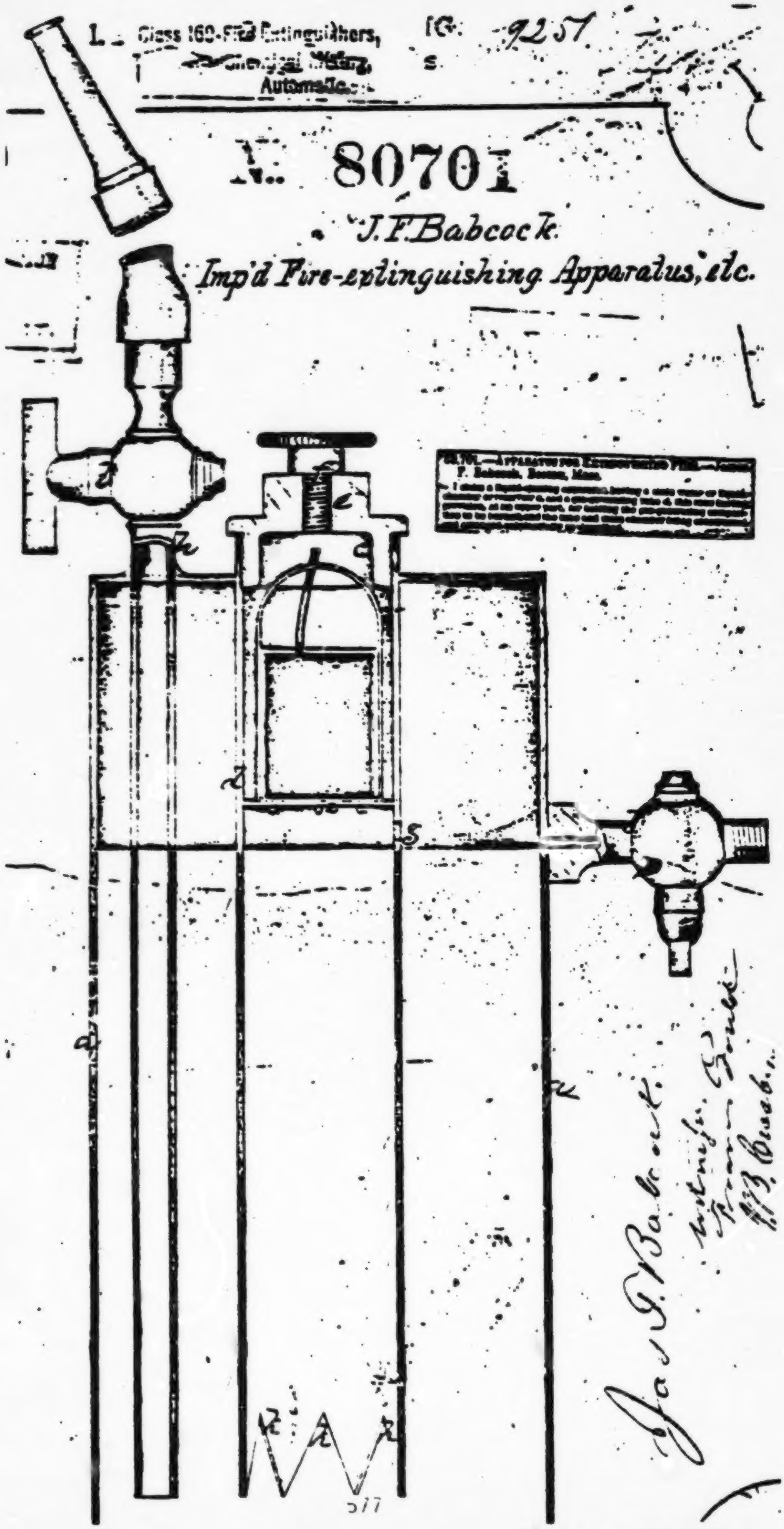
No. 80701

J. F. Babcock.

Imp'd Fire-extinguishing Apparatus, etc.

80,701.—Apparatus for Extinguishing Fire.—James F. Babcock, Boston, Mass.

I claim [illegible]



Jas. F. Babcock

Witnesses

[illegible]

J. B. Crosby

The plans proposed by the board for officers' quarters are also unsatisfactory, being too small, and lacking the conveniences which should be furnished. The want of bath-rooms in these quarters is especially to be condemned. The providing of conveniences for bathing, both for officers and enlisted men, is too much neglected; and were it not for the fact that the officers and men are very generally aware of the importance of the matter, and hence provide themselves with such makeshifts for bathing conveniences as can be obtained, the results would probably be serious. Next to fresh air and proper food, personal cleanliness is the most important agent in preserving the mind and body in proper working order, and it is not only a duty, but in the highest degree good policy and economy, on the part of the Government, to provide the necessary facilities. A dirty man will, in most cases, be a discontented, disagreeable, and dissolute man; for the condition of his skin has much more to do with a man's morals than is generally supposed.

I would strongly urge that cheap, strong bathing-tubs, or other means of cleansing the whole body, should be as regular a part of the supply of a post as bedsteads. It is by no means sufficient that bathing facilities are good in summer. These should be attended to, for no bath-tub can take the place of a plunge and swimming bath, and there are few posts where the latter cannot be arranged; but winter, as well as summer, should be provided for, and it is to be hoped that no plans for barracks or officers' quarters will be approved in future which do not contain provisions for bathing in cold weather.

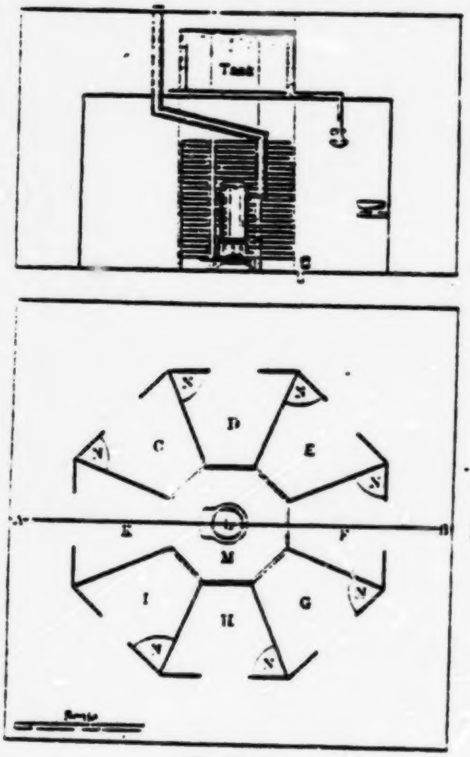


Figure 2.

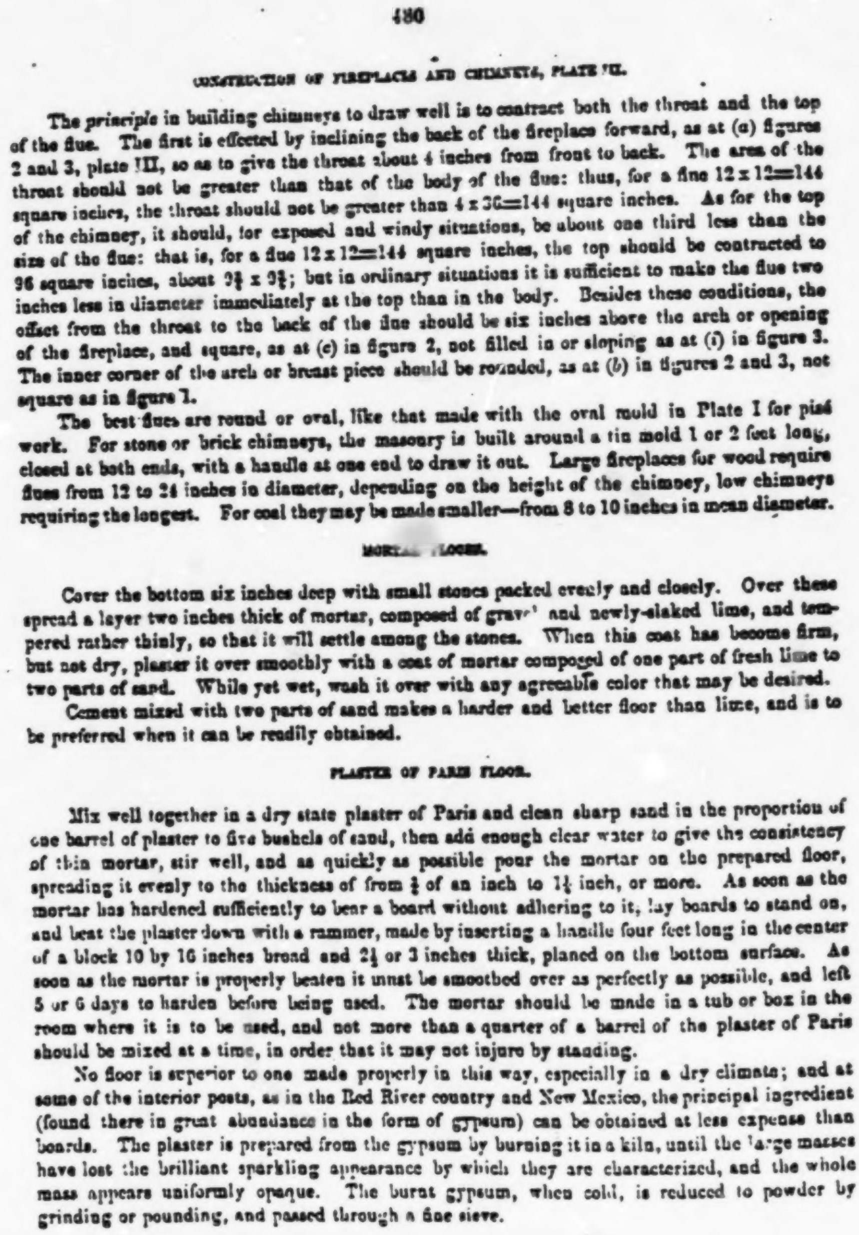
The main difficulties in the way of arranging bath-houses for the winter use of the troops arise from deficient water-supply, and from difficulty in heating the room or rooms. Both these obstacles can be overcome, to a considerable extent, and without great expense, by using jets or showers instead of tubs, placing the shower about 5 feet 6 inches from the floor, and using warm water instead of cold. The bathers' stalls need not be large, and can be compactly arranged as shown in Figure 2.

1, plan: 2, vertical section on line A, B. C, D, E, F, G, H, I, bathing apartments; K, opening to stove; L, stove in central apartment, M, for heating the room and the water in the tank; N, shelves in corner of apartments for wash-basin, soap, &c. The central apartment, M, is 5 feet in diameter. Cells, or bathing apartments, are 4½ feet deep, and 5 feet 3 inches across widest end. There should be eight posts about the central chamber, for the support of the tank between these posts there should be open-work, (slats,) to allow the warm air generated by the stove to pass into the bathing-chambers. Doorways into chambers to

APPENDIX M

SOME FINISHES

This appendix presents specifications for various interior finishes used by the Army, from Barracks Regulations 1860, 480-82, along with some exterior finishes of interest.



480

CONSTRUCTION OF FIREPLACES AND CHIMNEYS, PLATE III.

The *principle* in building chimneys to draw well is to contract both the throat and the top of the flue. The first is effected by inclining the back of the fireplace forward, as at (*a*) figures 2 and 3, plate III, so as to give the throat about 4 inches from front to back. The area of the throat should not be greater than that of the body of the flue: thus, for a flue 12 x 12=144 square inches, the throat should not be greater than 4 x 36=144 square inches. As for the top of the chimney, it should, for exposed and windy situations, be about one third less than the size of the flue: that is, for a flue 12 x 12=144 square inches, the top should be contracted to 96 square inches, about 9¾ x 9¾; but in ordinary situations it is sufficient to make the flue two inches less in diameter immediately at the top than in the body. Besides these conditions, the offset from the throat to the back of the flue should be six inches above the arch or opening of the fireplace, and square, as at (*c*) in figure 2, not filled in or sloping as at (*i*) in figure 3. The inner corner of the arch or breast piece should be rounded, as at (*b*) in figures 2 and 3, not square as in figure 1.

The best flues are round or oval, like that made with the oval mold in Plate I for pisé work. For stone or brick chimneys, the masonry is built around a tin mold 1 or 2 feet long, closed at both ends, with a handle at one end to draw it out. Large fireplaces for wood require flues from 12 to 24 inches in diameter, depending on the height of the chimney, low chimneys requiring the longest. For coal they may be made smaller—from 8 to 10 inches in mean diameter.

MORTAR FLOORS.

Cover the bottom six inches deep with small stones packed evenly and closely. Over these spread a layer two inches thick of mortar, composed of gravel and newly-slaked lime, and tempered rather thinly, so that it will settle among the stones. When this coat has become firm, but not dry, plaster it over smoothly with a coat of mortar composed of one part of fresh lime to two parts of sand. While yet wet, wash it over with any agreeable color that may be desired.

Cement mixed with two parts of sand makes a harder and better floor than lime, and is to be preferred when it can be readily obtained.

PLASTER OF PARIS FLOOR.

Mix well together in a dry state plaster of Paris and clean sharp sand in the proportion of one barrel of plaster to five bushels of sand, then add enough clear water to give the consistency of thin mortar, stir well, and as quickly as possible pour the mortar on the prepared floor, spreading it evenly to the thickness of from ¾ of an inch to 1¼ inch, or more. As soon as the mortar has hardened sufficiently to bear a board without adhering to it, lay boards to stand on, and beat the plaster down with a rammer, made by inserting a handle four feet long in the center of a block 10 by 16 inches broad and 2½ or 3 inches thick, planed on the bottom surface. As soon as the mortar is properly beaten it must be smoothed over as perfectly as possible, and left 5 or 6 days to harden before being used. The mortar should be made in a tub or box in the room where it is to be used, and not more than a quarter of a barrel of the plaster of Paris should be mixed at a time, in order that it may not injure by standing.

No floor is superior to one made properly in this way, especially in a dry climate; and at some of the interior posts, as in the Red River country and New Mexico, the principal ingredient (found there in great abundance in the form of gypsum) can be obtained at less expense than boards. The plaster is prepared from the gypsum by burning it in a kiln, until the large masses have lost the brilliant sparkling appearance by which they are characterized, and the whole mass appears uniformly opaque. The burnt gypsum, when cold, is reduced to powder by grinding or pounding, and passed through a fine sieve.

CONSTRUCTION OF FIREPLACES AND CHIMNEYS, PLATE III.

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PLASTER OF PARIS FLOOR.

Mix well together in a dry state plaster of Paris and clean sharp sand in the proportion of one barrel of plaster to five bushels of sand, then add enough clear water to give the consistency of thin mortar, stir well, and as quickly as possible pour the mortar on the prepared floor, spreading it evenly to the thickness of from ¾ of an inch to 1¼ inch, or more. As soon as the mortar has hardened sufficiently to bear a board without adhering to it, lay boards to stand on, and beat the plaster down with a rammer, made by inserting a handle four feet long in the center of a block 10 by 16 inches broad and 2½ or 3 inches thick, planed on the bottom surface. As soon as the mortar is properly beaten it must be smoothed over as perfectly as possible, and left 5 or 6 days to harden before being used. The mortar should be made in a tub or box in the room where it is to be used, and not more than a quarter of a barrel of the plaster of Paris should be mixed at a time, in order that it may not injure by standing.

No floor is superior to one made properly in this way, especially in a dry climate; and at some of the interior posts, as in the Red River country and New Mexico, the principal ingredient (found there in great abundance in the form of gypsum) can be obtained at less expense than boards. The plaster is prepared from the gypsum by burning it in a kiln, until the large masses have lost the brilliant sparkling appearance by which they are characterized, and the whole mass appears uniformly opaque. The burnt gypsum, when cold, is reduced to powder by grinding or pounding, and passed through a fine sieve.

MORTAR FOR COVERING EARTH ROOF.

It should be composed of cement and clean sharp sand, in the proportion of one barrel of cement to five bushels of sand. Prepare and put it on in the same manner and with the same precautions as the plaster of Paris for floors, but without beating.

MORTAR FOR PLASTERING OR ROUGH-CASTING THE EXTERIOR OF HOUSES

Is made, like common mortar, of lime and clean sand, in the proportion of one barrel of lime to nine bushels of sand, with the addition of eight pounds of brown sugar, which will produce strong crystalization, and cause the plaster to resist the action of the weather. For this purpose the sugar should be mixed in in small quantities on the mortar board when the plaster is being applied; and if the mortar is put on in two coats, which is preferable, the sugar is only used in the last.

The mortar may be put on entirely with the trowel. For *rough-casting*, the last coat especially, is thrown upon the wall by means of a broom made of small twigs. The coloring material is mixed in with the last coat. Small pebbles, not much larger than a pea, may be introduced into the second coat with advantage, both as regards durability and appearance.

WASHES FOR OUTSIDE COLORING FOR STONE, BRICK, ROUGH-CAST, OR WOOD.

1. *Ingredients*: 1/16 barrel of lime, 1/8 barrel of cement, 1/8 peck of wood ashes, (hickory in preference,) 1/8 gallon of boiled linseed oil, and for coloring, 1¼ pounds of Spanish brown, which will make a drab or fawn color. Slake the lime with clean water in a tub or barrel, as for whitewash; when fully in the process of boiling, add the linseed oil; after the lime is perfectly dissolved, add the ashes and stir well; when this mixture is cold, stir in the cement and Spanish brown, and add clear cold water to give the consistency of cream, and immediately apply the wash, in three coats, with a brush. One coat should not become perfectly dry before the next is applied; therefore, cloudy weather is preferable for the work, and in clear weather keep it as much in the shade as possible.

Good fresh lime will slake with cold water; but, if not, use hot water.

2. Slake half a bushel of fresh quick lime in a barrel or tub; when it is quite slaked, add two pounds of sulphate of zinc (white vitriol) dissolved in water, and sufficient water to bring the mixture to the consistency of thick whitewash. This wash is white. Color it by adding any mineral color that may be desired. Four pounds of yellow ocher will make it a cream color; four pounds of umber, one pound of Indian red, and half pound of lampblack, a fawn color; Spanish brown, a drab.

Lampblack, when mixed with water-colors, should always be dissolved in alcohol.

3. Wash for brick, stone, stucco, or rough-cast: Slake half a bushel of fresh lime in a barrel, then fill the barrel two thirds full of water, and add one bushel of hydraulic cement; mix in three pounds of sulphate of zinc, dissolved in water; and add water, if necessary, to give the consistency of paint ready for use. A peck of white sand stirred in just before using will improve the wash. This wash has a pale stone color, nearly white. One pound of yellow ocher, two pounds of raw umber, and two pounds of Indian red, will make it a fawn color; one pound of Indian red, one pound of umber, and one pound of lampblack, a drab.

A CHEAP AND DURABLE PAINT FOR BRICK, STONE, OR OUTSIDE WOOD WORK.

Take fresh lime and reduce it to powder by slaking; to one peck of the powdered lime add one peck of fine white sand, or fine coal ashes, and two pecks of fresh wood ashes; mix the whole thoroughly together while dry, and sift them through a sieve; then mix them with as much common linseed oil as will make the whole thin enough to work freely with a paint brush. This paint will be of a light gray stone color, nearly white. The color may be varied by the use of yellow ocher, Indian red, burnt umber, lampblack, or Spanish brown, first mixing the colors in oil. It is best to apply the paint in two coats; the first thin, the second thick.

A DURABLE PAINT FOR OUTSIDE WORK.

Fifty pounds of white lead, ten quarts linseed oil, half pound of dryers, fifty pounds finely sifted, sharp, clean sand, two pounds raw umber, or other desirable coloring material; mix and dilute the whole thoroughly with the oil, adding about half a pint of turpentine. Apply in two coats, the second thinner than the first, with a large brush. A wire brush is preferable, as the sand does not cut it away.

Colored washes for the exterior of houses preserve their appearance longer than white, and at the same time are more pleasing to the eye. Fawn, drab, grey, brown, or other quiet shades, are the most desirable. The dark shades are most suitable for out-buildings—as for instance, the stables, storehouses, guard-house, &c., in a garrison, while the lighter colors are more suitable for the quarters and other prominent buildings. The door and window casings, cornices, &c., should be of the same color as the walls, but several shades lighter or darker—that is, darker for light walls, and lighter for dark walls. A wash for the walls, and one of the cheap paints above described for the casings, &c., of quarters, of suitable colors, would make a good and cheap finish. The window-blinds of the quarters should be a very dark green.

STAINING FOR OUTSIDE WOOD WORK.

Turpentine, one and a half gallon; seed-lac, dissolved in alcohol, (in the proportion of one pound of seed-lac to one quart of alcohol,) two quarts; raw linseed oil, half gallon; boiled linseed oil, half gallon; beeswax, six pounds; ox-gall, one pound. Mix these ingredients well together, and to every four gallons of the mixture add one gallon of the best rosin-tar or pitch, and apply the stain with a large flat brush. A larger proportion of tar will make it resist the action of the weather better.

STAINING FOR INSIDE WOOD WORK.

1. Prepare the wood by washing it with a solution of sulphuric acid—an ounce of acid to a pint of warm water. It should be put on while warm. Then stain the wood by rubbing it over with tobacco stain by means of a piece of flannel or sponge. If a dark color is desired put on a second coat of the stain, which is made by boiling down common tobacco very slowly until it has the consistency of syrup and then straining it. When the stained wood is quite dry, brush it over with a mixture composed of half pound of beeswax and a half pint of raw linseed oil, and one pint of boiled linseed oil. It may afterwards be varnished and polished if desired.

One pound seed-lac dissolved in a quart of alcohol makes an excellent cheap varnish for covering stained wood.

2. For a dark oak color: yellow ocher, four pounds; burnt umber, two pounds; venetian red, one pound; lampblack, two fifths pound; and for black walnut color: yellow ocher, two pounds; burnt umber, two pounds; venetian red, one pound; lampblack, half pound. Dissolve each ingredient separately in glue water, made by boiling glue in water in the proportion of one pound of glue to a half gallon of water; mix the whole together, and add luke-warm glue water if necessary until the mixture has the consistency of thick cream, and apply it in one coat with a sponge. When it is perfectly dry varnish with a soft brush.

APPENDIX N

SIZE OF COMPANIES

The following are calculations of the average size of companies under each congressional establishment of army organization before 1880. At the head of each table is the year of the act(s) of Congress fixing the size and organization of the Army, together with the total authorized strength of officers and men. It should be noted that, except in the aftermath of wars, the Army was seldom at authorized strength; just after wars it exceeded its established maximum for a brief period. Some confusion is introduced in the late 1860s, when Congress established a maximum size for the Army, and at the same time prescribed a "minimum organization" to which the force was limited as a maximum. When applicable, the minimum organization in force is reflected in the tables.

Beneath each date are listed all the regiments and other organizations authorized for the Army by Congress. The figure at the right of each line is the average company strength, counting privates (PVTs) and noncommissioned officers (NCOs), but excluding both officers and NCOs in regimental positions (such as sergeant-majors, principal musicians, the like). This figure gives the average number of men in a company requiring barracks accommodations, and supports the determinations of room size and division addressed in Part V of this report.

The United States Army was established in the first act of Congress under the Constitution in 1789. Its original authorized strength was 886 officers and men, although that was raised to 1,273 in 1790, and to 2,232 in 1791. Because of the wars with Indians in the Northwest, the force expanded to an authorized 5,414 in 1792; afterwards, in 1796, Congress cut the Army to an authorized 3,359. Two years later, the quarrel with France caused Congress to expand the force to 4,159, then to 4,173. Later that year when matters became really serious, Congress enlarged the Army to 14,421 officers and men, although that force never took form except on paper. The same was true of the force of 51,691 in 1799. In

1800, when international tensions eased, Congress reorganized the force to the miniscule dimensions suggested in the first table below.

The information in this appendix is derived from the tables presented in Heitman, Historical Register, 2: 560-625. The last item presented is Heitman's table of actual army strength from 1789 to 1902, from page 626 of the same volume. Heitman's note about the unknowable actual strength in years before 1816 should be heeded.

May 14, 1800: Authorized Strength 4,436 Officers and Men.

Two regiments of artillerists and engineers, 32 companies @:	62
Light dragoons, 4 companies @:	63
Four regiments of infantry, 32 companies @:	62

March 16, 1802: Authorized Strength 3,287 Officers and Men.

Regiment of Artillerists, 20 companies @:	76
Two regiments of infantry, 20 companies @:	76

April 12, 1808: Authorized Strength 9,921 Officers and Men.

Regiment of Light Artillery, 10 companies @:	76
Regiment of Artillertists, 20 companies @	76
Regiment of Light Dragoons, 8 companies @:	76
Seven regiments of infantry, 70 companies @:	78
Regiment of Riflemen, 10 companies @:	78

June 26, 1812: Authorized Strength 35,752 Officers and Men.

Regiment of Light Artillery, 10 companies @:	88
Regiment of Artillerists, 20 companies @:	76
Two regiments of artillery, 40 companies @:	90
First Regiment of Dragoons, 8 companies @:	79
Second Regiment of Dragoons, 12 companies @:	79
Twenty-five regiments of infantry, 250 companies @:	102
Regiment of Riflemen, 10 companies @:	78

March 3, 1813: Authorized Strength 57,351 Officers and Men.

Regiment of Light Artillery, 10 companies @:	89

Regiment of Artillerists, 20 companies @:	77
Second and Third Regiments of Artillery, 40 companies @:	91
First Regiment of Dragoons, 8 companies @:	80
Second Regiment of Dragoons, 12 companies @:	80
Forty-four regiments of infantry, 440 companies @:	103
Regiment of Riflemen, 10 companies @:	79

March 30, 1814: Authorized Strength 62,674 Officers and Men.

Regiment of Light Artillery, 10 companies @:	89
Corps of Artillery, 48 companies @:	117
Regiment of Light Dragoons, 8 companies @:	114
Forty-four regiments of Infantry, 440 companies @:	103
Four regiments of riflemen, 40 companies @:	101
Regiment of Rangers, 10 companies @:	101
Sea Fencibles, 10 companies @	103:

March 3, 1815: Authorized Strength, 12,383 Officers and Men.

Regiment of Light Artillery, 10 companies @:	76
Corps of Artillery, 48 companies @:	117
Eight regiments of infantry, 80 companies @:	78
Rifle Regiment, 10 companies @:	78

March 2, 1821: Authorized Strength, 6,126 Officers and Men.

Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51

April 5 and June 15 and 28, 1832 Authorized Strength 7,129 Officers and Men.

Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51
Battalion of Mounted Rangers, 6 companies @:	110

March 2, 1833: Authorized Strength 7,194 Officers and Men.

Regiments of Dragoons, 10 companies @:	71
Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51

May 23 and July 4, 1836: Authorized Strength 7,957 Officers and Men.

Two regiments of dragoons, 20 companies @:	71
Four regiments of artillery, 36 companies @:	55
Seven regiments of infantry, 70 companies @:	51

July 5 and 7, 1838: Authorized Strength 12,539 Officers and Men.

Two regiments of dragoons, 20 companies @:	71
Four regiments of artillery, 40 companies @:	71
Seven regiments of infantry, 80 companies @:	90

May 12, 15, and 19 and June 18 and 26, 1846: Authorized Strength 12,539 Officers and Men.

Two regiments of dragoons, 20 companies @:	110
Regiment of Mounted Riflemen, 10 companies @:	76
Four regiments of artillery, 40 companies @:	112
Eight regiments of infantry, 80 companies @:	110

February 11, and March 3, 1847: Authorized Strength 30,865 Officers and Men.

Three regiments of dragoons, 30 companies @:	113
Regiment of Mounted Riflemen, 10 companies @:	114
Four regiments of artillery, 48 companies @:	114
Sixteen regiments of infantry, 160 companies @:	110
Regiment of Voltigeurs, 10 companies @:	110

August 14, 1848: Authorized Strength 10,317 Officers and Men.

Two regiments of dragoons, 20 companies @:	61
Regiment of Mounted Riflemen, 10 companies @:	76
Four regiments of artillery, 48 companies @:	54
Eight regiments of infantry, 80 companies @:	52

March 3, 1855: Authorized Strength 12,698 Officers and Men.

Two regiments of dragoons, 20 companies @:	61
Two regiments of cavalry, 20 companies @:	61
Regiment of Mounted Riflemen, 10 companies @:	76
Four regiments of artillery, 48 companies (see note) @:	58 average
Ten regiments of infantry, 100 companies @:	52

Note: The act of June 17, 1850, directed that two companies in each of the four artillery regiments be equipped as light artillery, with 64 instead of 42 privates per company; the figure shown is an average including NCOs. The same act authorized the president, when circumstances required, to increase to 74 the number of privates in any company at remote or western stations; the table above reflects the current minimum force, with 50 privates to a company of dragoons, 64 per company of light artillery and riflemen, and 42 per company of artillery or infantry. By 1855 the president had directed that the number of privates be raised to 74 in companies serving in Florida and Key West; in Texas, New Mexico, California, and Oregon; at Forts Snelling and Ripley on the Mississippi; at Fort Ridgely on the Minnesota; Fort Riley, Kansas; Fort Gibson, Oklahoma; Fort Arbuckle, Oklahoma; at Forts Kearny and Laramie on the Oregon Trail; in the companies on the Sioux expedition; and in all companies of the 10th Infantry, bound for distant service. The total increase of enlisted strength was 5,164, making an actual authorized strength of 17,862 officers and men. If the president were to exercise his full authority, the latter figure could grow to 18,318.

July 29, and August 3, 1861: Authorized Strength 39,273 Officers and Men.

1st, 2nd, 4th, and 5th Cavalry Regiments, 40 companies @:	63
3rd Cavalry Regiment, 10 companies @:	78
6th Cavalry Regiment, 12 companies @:	92
1st, 2nd, 3rd, and 4th Artillery Regiments, 48 companies @:	58 average
5th Artillery Regiment, 12 companies @:	149
1st through 10th Infantry Regiments, 100 companies @:	55
Nine regiments of infantry (New Army), 216 companies @:	98

The provisions of the act of June 17, 1850, discussed above were still in effect for the four old artillery regiments. Those authorizing expanded companies still applied. In 1861 the president had exercised part of his option, adding 1,974 privates, making a total authorized strength of 41,257. The companies were increased in forces serving on the coast of Florida, in Kansas, Nebraska, Utah, Texas, New Mexico, California, Oregon, and Washington, and at Forts Ripley, Ridgely, Arbuckle, Washita, "or elsewhere in the Indian country west of the Mississippi."

The total optional increase available in 1861 was 5,620, which would increase the authorized strength to 44,893. Given the disturbances of the Civil War, including such events as the surrender of the Texas posts, these figures must be accepted with great care.

July 28, 1866: Authorized Strength 54,641 Officers and Men.

Ten regiments of cavalry, 120 companies @:	100	
Five regiments of artillery, 60 companies @:	94	average
Forty-one regiments of infantry, 410 companies @:	69	
Four regiments of infantry (Veterans Reserve Corps), 40 cos. @:	69	
Fifteen brigade or post bands, 15 bands @:	24	

The table reflects the minimum organization of artillery and infantry regiments: 50 companies of artillery (not mounted) with 4 sergeants, 8 corporals, and 64 privates, and 10 companies (mounted) with 6 sergeants, 12 corporals, and 122 privates to a company, and 50 privates to each company of infantry (yes, there were 19 NCOs per infantry company by 1866). If all of the companies of the infantry arm were increased to their maximum strength (100 privates), and if the artillery regiments were increased to full complement, the total authorized strength would be 80,258.

March 3, 1869: Authorized Strength 37,313 Officers and Men.

Ten regiments of cavalry, 120 companies @:	80	
Five regiments of artillery, 60 companies @:	84	average
Twenty-five regiments of infantry, 250 companies @:	69	

The table reflects the minimum organization: 60 privates to each company of cavalry, 55 companies of artillery (not mounted) with 2 first and 1 second lieutenants (not figured in the average company size), 4 sergeants, 8 corporals, and 64 privates; and 5 companies (mounted) with 2 first and 2 second lieutenants, 6 sergeants, 12 corporals, and 122 privates to a company, and 50 privates to each company of infantry. If all the companies were increased to the maximum--cavalry 78 privates and infantry 100 privates--with the artillery at maximum complement, the total strength would be 55,618.

July 15, 1870: Authorized Strength 35,353 Officers and Men.

Ten regiments of cavalry, 120 companies @:	77
Five regiments of artillery, 60 companies @:	84 average
Twenty-five regiments of infantry, 250 companies @:	65

The table reflects the minimum organization: 60 privates to a company of cavalry, 55 companies of artillery (not mounted) with 2 first lieutenants, 1 second lieutenant, 4 sergeants, 4 corporals, and 64 privates, and 5 companies of artillery (mounted) with 2 first lieutenants, 2 second lieutenants, 6 sergeants, 4 corporals, and 122 privates to a company, and 50 privates to an infantry company. A maximum 1,000 Indian scouts were authorized, but only 151 showed on the books in 1870.

June 16 and 23, 1874, March 2 and 3, 1875, and June 26, 1876: Authorized Strength 27.472 Officers and Men.

Ten regiments of cavalry, 120 companies @:	70
Five regiments of artillery, 60 companies @:	43
Twenty-five regiments of infantry, 250 companies @:	48

The act of June 16, 1874, limited the number of enlisted men to 25,000 including Indian scouts and excepting the signal service. A maximum 1,000 Indian scouts were authorized but only 300 were shown. The Signal Detachment included 400 enlisted men. Congress did not change the organization again until 1889. Infantry companies averaged less than 34 privates, cavalry 54, and artillery less than 29.

Actual strength of the Regular Army of the United States at stated periods in each year from 1789 to 1902.

[Retired officers not included.]

Date.	Officers.	Men.	Total.	Date.	Officers.	Men.	Total.
1789[a]	46	840	886	November, 1853	961	9,456	10,417
1790[a]	57	1,216	1,273	November, 1854	956	9,789	10,745
1791[a]	104	2,128	2,232	November, 1855	1,042	14,710	15,752
1792 to 1795[a]	258	5,156	5,414	June, 1856	1,072	14,490	15,562
1796 to 1798[a]	233	3,126	3,359	June, 1857	1,097	14,667	15,764
1798[a]	785	13,636	14,421	June, 1858	1,099	16,399	17,498
1799[a]	2,447	49,244	51,691	December, 1859	1,077	15,358	16,435
1800 to 1801[a]	318	4,118	4,436	December, 1860	1,108	15,259	16,367
1802 to 1808[a]	241	3,046	3,287	June, 1861	1,004	15,418	16,422
1808 to 1811[a]	774	9,147	9,921	June, 1862	1,729	23,761	25,490
1812[a]	1,657	34,085	35,742	June, 1863	1,844	22,915	24,759
1813[a]	3,260	54,091	57,351	June, 1864	1,813	19,791	21,604
1814[a]	3,495	59,179	62,674	April, 1865	1,605	20,705	22,310
July, 1815[a]	674	11,709	12,383	June, 1866	2,020	31,470	33,490
December, 1816	735	9,289	10,024	August, 1867	2,853	53,962	56,815
December, 1817	660	7,560	8,220	August, 1868	2,835	48,081	50,916
December, 1818	640	7,036	7,676	August, 1869	2,700	34,074	36,774
December, 1819	641	8,047	8,688	August, 1870	2,541	34,534	37,075
December, 1820	712	8,230	8,942	August, 1871	2,105	27,848	29,953
December, 1821	530	5,216	5,746	June, 1872	2,104	27,110	29,214
November, 1822	512	4,699	5,211	June, 1873	2,076	27,580	29,656
November, 1823	525	5,424	5,949	June, 1874	2,080	28,440	30,520
November, 1824	532	5,247	5,779	June, 1875	2,094	23,580	25,674
November, 1825	562	5,157	5,719	June, 1876	2,151	26,161	28,312
November, 1826	540	5,269	5,809	June, 1877	2,178	22,676	24,854
November, 1827	546	5,176	5,722	June, 1878	2,153	23,701	25,854
November, 1828	540	4,989	5,529	June, 1879	2,127	24,341	26,468
November, 1829	608	5,561	6,169	June, 1880	2,152	24,357	26,509
November, 1830	627	5,324	5,951	June, 1881	2,181	23,561	25,742
December, 1831	613	5,256	5,869	June, 1882	2,162	23,477	25,639
November, 1832	659	5,443	6,102	June, 1883	2,143	23,404	25,547
November, 1833	666	5,746	6,412	June, 1884	2,156	24,265	26,421
November, 1834	669	6,155	6,824	June, 1885	2,167	24,731	26,898
November, 1835	680	6,471	7,151	June, 1886	2,111	24,143	26,254
November, 1836	672	5,611	6,283	June, 1887	2,200	24,394	26,594
November, 1837	642	7,192	7,834	June, 1888	2,189	24,687	26,876
November, 1838	701	7,952	8,653	June, 1889	2,177	25,367	27,544
November, 1839	716	8,988	9,704	June, 1890	2,168	24,921	27,089
December, 1840	733	9,837	10,570	June, 1891	2,052	24,123	26,175
November, 1841	754	10,415	11,169	June, 1892	2,140	24,760	26,900
November, 1842	781	9,847	10,628	June, 1893	2,158	25,361	27,519
November, 1843	805	8,130	8,935	June, 1894	2,146	25,778	27,924
November, 1844	823	7,750	8,573	June, 1895	2,154	25,018	27,172
November, 1845	826	7,523	8,349	June, 1896	2,169	24,869	27,038
December, 1846	879	9,811	10,690	June, 1897	2,179	25,353	27,532
November, 1847	1,353	20,333	21,686	June, 1898	2,198	45,669	47,867
November, 1848	929	9,106	10,035	June, 1899	2,471	62,258	64,729
November, 1849	945	9,640	10,585	June, 1900	2,486	65,669	68,155
November, 1850	948	9,815	10,763	June, 1901	2,940	78,646	81,586
November, 1851	944	9,594	10,538	June, 1902	3,604	70,990	74,594
November, 1852	957	10,245	11,202				

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[a] The returns of the Army covering these years are incomplete, and the authorized, instead of the actual, strength is here shown.

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GOVERNMENT DOCUMENTS AND REPORTS

Annual reports of the secretary of war, commanding general of the army (title varies), quartermaster general, surgeon general, chief of engineers, commissary general of purchases, commissary general of subsistence, adjutant general (when presented), and inspector general (when presented), 1822-1882. These are all combined into the annual report of the secretary of war and submitted to the Congress with the annual message of the president. From 1822, when they began, through 1837, they were published in *American State Papers, Class V. Military Affairs* (7 volumes); thereafter they may be found in the Congressional Documents Serial Set, usually as House or Senate document or executive document 1. Their informative value varied for this report. The reports of the quartermaster general and commissary general of purchasing were always informative, those of the secretary of war, surgeon general, and commanding general usually or often so; those of the Engineer and Subsistence Departments were of limited value. The reports of the Ordnance Department during the early 1840s were useful on the matter of developments in Europe.

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